REVIEW OF ISSUES RELATED TO SUSTAINABLE AGRICULTURE

HEARING

BEFORE THE

SUBCOMMITTEE ON DEPARTMENT OPERATIONS, RESEARCH, AND FOREIGN AGRICULTURE

OF THE

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HOUSE OF REPRESENTATIVES

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REVIEW OF ISSUES RELATED TO SUSTAINABLE AGRICULTURE

MONDAY, FEBRUARY 19, 1990

House of Representatives,
Subcommittee on Department Operations,
Research, and Foreign Agriculture,
Committee on Agriculture,
Royal Center, IN.

The subcommittee met, pursuant to notice, at 9:05 a.m., at the Pioneer High School, U.S. Route 35 North, Royal Center, IN, Hon. George E. Brown, Jr. (chairman of the subcommittee) presiding.

Present: Representatives Jontz and Grandy.

Staff present: William A. Stiles, Jr.

OPENING STATEMENT OF HON. GEORGE E. BROWN, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. Brown. The subcommittee will come to order. My name is George Brown. I am a Congressman from California, and I am the chairman of the Subcommittee on Department Operations, Research, and Foreign Agriculture of the Agriculture Committee, which is holding this hearing. I have with me at the hearing this morning Mr. Fred Grandy from Iowa and Mr. Jim Jontz, your own Congressman from this district. I would like to say a lot of nice things about both of them, but why start the morning off by telling a lot of lies?

We will each have some brief opening statements. Mine will be the longest, and then we will get into the witnesses.

I want to, first of all, express my appreciation to Mr. Jontz for arranging the use of the facilities here. And, of course, I suppose I should thank the principal and the school board, and everybody else. This is a large, impressive high school, particularly compared to the one I attended 50-odd years ago, with a total of about 200 students. It is fresh in my mind, because I visited my hometown this last weekend and, my, that school looked awfully small after all these years. But it is reassuring to know that out here in Indiana you still devote a lot of attention and a high priority to education, because it is still the most important thing we can do.

In a sense, what we are doing here at this hearing is an educational function. And I do not mean your education, I mean our education, because we tend to kind of become isolated in Washington, perhaps not as much as some people think, but it does constitute a hazard of life there. We seem to occasionally forget that the real activity is going on out in the States and the district where people still do the work that makes our country great and have the problems which we need to work on as a nation. Hearings of this sort give us an opportunity to get some input from these people and to carry it back to Washington and hope that it will have some influence on the course of legislation.

Today we are here in Indiana to explore the issue of alternative agriculture. I must say that the term has become many things to many people, and one of the difficulties we have when looking at this issue is defining what we are talking about. In a general way, the term "alternative agriculture" reflects a feeling that agriculture needs to change if our farmers are to meet the economic and social challenges which lie ahead. The larger society is demanding more from agriculture today than ever before, as issues like food safety and water quality dominate the medium. These concerns are not the private domain of urban people, but are shared by the rural resident as well and signal a need for agriculture to begin addressing these issues.

At the same time, there are great opportunities ahead for agriculture which require greater flexibility and diversification. New crops, new markets, and more sophisticated farming practices are on the horizon. And these will require changes in agriculture production. These needs also color the definition and direction of alternative agriculture.

This subcommittee has been holding hearings on this and related topics for much of the last 3 years. We have looked at the ground water concerns in Mr. Grandy's district in Iowa, where the problems are serious and where they already have the beginnings of a local and State program to take care of these things. We have looked at the problems of dairy waste in Texas, where a large number of new dairies are coming up and affecting the environment and the quality of the water in many parts of Texas. I have found from these field hearings that they can be very useful in gaining a perspective which we cannot get from just sitting in Washington, DC.

We will be making judgments in the next few weeks on various proposals which have been made to move alternative production practices more into the mainstream of American agriculture. Today's hearings will help us as we make the difficult choices in the weeks ahead. I might add at this point that both Mr. Jontz and Mr. Grandy have been extremely active in the committee in sponsoring legislation dealing with various aspects of this subject. Mr. Grandy has had a bill now for several years, which we hope to get some action on this year, dealing with water quality programs at the Department of Agriculture. And Mr. Jontz has a fairly comprehensive bill on alternative agriculture, which is going to be part of the input as we look at the overall revisions of the farm bill, which we have to do sometime in the next 2 to 3 months. So, obviously, these two gentlemen both are knowledgeable and concerned and are leaders in trying to move the Congress forward in changing the conditions under which agriculture works in the world of today. So I am looking forward to this hearing as a means of getting additional input.

I am now going to recognize Mr. Grandy for any opening statement that he might have.

OPENING STATEMENT OF HON. FRED GRANDY, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF IOWA

Mr. GRANDY. Thank you, Mr. Chairman, and let me join you in thanking our colleague Mr. Jontz, our host here in Indiana, for having this hearing today. I look forward to the testimony, and I would only say that somebody who comes from a State which fancies itself—and I think not incorrectly—as a laboratory for sustainable agriculture and in a crucible where production interests and environmental interests work together to form solutions that are amenable to both sides, it is nice to be returning the favor to my friend Jim Jontz, who was in Iowa about 2 weeks ago at the same kind of hearing for the Energy and Environmental Study Institute. We were talking more about water quality, but of course the subject of this sustainable agriculture bill came up. I guess I would add that it is no longer, I think, appropriate to look upon this subject of sustainable agriculture or alternative agriculture, if you will, as a fringe issue, as something that kind of orbits the farm bill that really has no place to land.

I just returned from a seminar in California where the subject came up regarding the new proposals that the administration has put forward in this document, where you were hearing subjects like: We need more flexibility in the farm bill; we need to reduce inputs so that we can increase yields and profits—something that perhaps we have not heard under the 1985 bill. But now people are saying, "Just because you reduce the chemical components in your agriculture does not necessarily mean you reduce your profits." This was not some fringe group. This was the national association, which is arguing for more flexible farm bills. So I think we are moving inexorably in that direction no matter what. However, we have a further way to go. I offer, for example, where you have a lot of producers that have purposely not played the base-building game and have conserved crops, rotated crops, mixed their crops with agriculture. These folks still find themselves somewhat penalized by the agricultural programs that we write in Congress, because they have not built their base; because they have conserved crops and managed their natural resources intelligently. They are still somewhat precluded from program benefits.

I just want to salute Mr. Jontz for opening and widening the debate on this particular subject to find ways to reward producers for following their own natural inclinations toward good stewardship, and I look forward to the testimony.

Mr. BROWN. Thank you very much, Mr. Grandy. I now recognize Mr. Jontz for his opening statement.

OPENING STATEMENT OF HON. JIM JONTZ, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF INDIANA

Mr. JONTZ. Thank you very much, Mr. Chairman. I want to welcome you here to Indiana and thank you for scheduling this subcommittee hearing. I also want to welcome my friend and colleague Congressman Grandy from northwestern Iowa. I believe, as you do, that field hearings of this nature are very important for us to hear directly from the people in agriculture who will be most directly affected by the policies that the Congress adopts in the farm bill this year. I really appreciate your willingness to take the time and, Fred, your willingness to come to Indiana to hear producers in northern Indiana speak to the issue of sustainable agriculture and alternative agriculture.

There are a lot of things happening in Washington, as you know, on this subject. Just a couple of weeks ago, the administration released its Farm Program for 1990. At the same time, the environmental groups released their farm program for 1990. The various farm groups and commodity organizations have their own proposals. And, of course, the chairman of our full committee, Mr. de la Garza of Texas, filed the bill, which will actually become the farm bill, H.R. 3950, just a couple of weeks ago also. So, we know a lot more about where we are starting from, perhaps, on the subject than we did just a few days ago. And, hopefully, this allows the producers who are affected and would be affected in this State and other parts of the country—everyone who is concerned about the direction that we are taking in the 1990 farm bill—to be able to respond to and comment on some of these various proposals. It certainly is a very valuable opportunity that you have provided us with today, Mr. Chairman.

I certainly enjoyed my visit to Iowa a couple of weeks ago. I was pleased to be Congressman Grandy's guest in Des Moines, and I was very impressed with what the State of Iowa has done. It helps me to understand why Congressman Grandy has taken such a leadership position in the Congress on this issue, because of the very stimulating environment in Iowa where producers have, and government at the State level have, done a lot of exciting things. The hearing session in Iowa gave me some perspective of what we are doing at the national level that I think will be very helpful.

I also had the opportunity this last week to attend a session sponsored in Lewiston, Idaho, by Idaho State University on the subject of sustainable agriculture. "Farming for Profit and Stewardship" was the title of this symposium. And almost 300 producers from Iowa, Oregon, and Washington were in attendance to listen to and discuss the issues of sustainable agriculture in the Pacific Northwest.

I appreciate very much, as each of you do, the challenge that is involved in writing a farm bill which does apply to producers throughout the Nation under very different and difficult circumstances. And that certainly makes our job very challenging to address these issues in a way which will be practical for producers in many different situations, under many different circumstances.

Mr. Chairman, one other thing I certainly appreciate is your cosponsorship of the flexible, sustainable agriculture bill that I have introduced, H.R. 3552. When Congressman Glickman, our colleague who is the chairman of the Wheat, Soybeans, and Feed Grains Subcommittee, came to Indiana for a hearing in August, the theme that we heard from producers that day was flexibility: More flexibility in the program. "We would like to plant for the market instead of for the program." I was able to tie that idea to the idea of sustainable agriculture with H.R. 3552 and introduce some legislation, which I appreciate your cosponsorship of, that would attempt to eliminate the barriers in the Farm Program that you have spoken to, that Mr. Grandy spoke to, which now prevent producers from engaging in crop-rotation patterns and other sustainable practices that they would like to. The unfortunate situation is that the loss of base and program payment that results from crop rotation has discouraged some producers from pursuing alternatives that they would otherwise choose. I think in the 1990 farm bill, we should include provisions identical or similar to H.R. 3552 which would allow producers to go to USDA and receive approval for a traditional crop-rotation pattern, including at least one resource-conserving crop—which we would define to be a legume or some combination of legume, small grains or grasses—and in return have his full program, a base and program payments protected.

In addition, I might add that, in response to the concern expressed by Mr. Grandy this morning and many others, we also include in this legislation opportunity for producers who have been stewardship farmers, have engaged in sustainable agricultural practices, to get some base reestablished. I think that is only fair for the individuals who have been farming by those methods.

Personally I do not see environmental concerns and agricultural concerns as being contradictory. In fact, I believe that farmers want to produce the food and fiber of this country for the people of this Nation and the people of the world in an environmentally compatible manner. I do not believe that by going through more sustainable methods we have to sacrifice yield or have to sacrifice production. In fact, I believe the whole concept of sustainable agriculture means that we would, instead, never have to maintain yields and maintain the productivity of the resource over a long period of time. Some people have had apprehensions about sustainable agriculture, have been concerned about whether profitability of the family farm could be adversely impacted. I appreciate those concerns. Obviously our job, as members of the committee, is to take the proposals that have been made by various parties, to address the overall concern or the issue of environmental protection, and do so in a practical commonsense way that allows farmers to produce a crop and earn a profit, and at the same time, do so in a more environmentally acceptable way.

In the end I am confident that the ingenuity, the creativity, the spirit of American agriculture, which has gotten us where we are today, will prevail, and that farmers in Indiana, California, and Iowa, will find ways to produce crops and meet the needs we have for food and fiber, with the concern for the environment that we all share. And that is what this hearing is about today. I appreciate your hospitality in having this hearing. I want to thank the witnesses and, of course, thank Pioneer High School. And I appreciate your patience with this opening statement.

Mr. Brown. Thank you, Mr. Jontz. In a moment I am going to turn the gavel over to Mr. Jontz. This is just a way of checking out whether he would make a good chairman sometime in the future, and he has already started off on the wrong track by talking longer than the chairman did. This will give me a chance to get even.

Just in case anyone here does not understand that California also has agriculture, I have to say a word about California. The home county that I come from probably provides most of the winter vegetables that you eat here in Indiana. It certainly provides a lot of the lettuce and carrots, and so forth, that we eat back in Washington, and it is the biggest shipper of any county in the United States. In fact, my hometown is called the "Carrot Capital of the World." Whenever I go there I wear a tie which has nothing but carrots on it, because we are so proud of our carrots there. We just had the carrot festival 2 weeks ago down there, and it is a huge civic festival, a celebration of the importance of carrots. If any of you do not eat enough carrots, please eat more carrots. They are very, very good for you.

But the real point is that we have the same agricultural problem that you have here. We have a situation, for example, where we use more chemicals in California than in any other State in the Union. The chemicals are beginning to become counter-productive. We are now growing bigger insect predators that are chemical resistant. And we find that we can no longer spray our cotton or our vegetables, for example, and expect to kill the predators. They just enjoy the chemicals. They have learned to kind of like them, and they eat the chemicals as well as the vegetables now. We are having to look at new practices. For example, we are having to pile up our cotton instead of keeping it in the field year round. A lot of cotton farmers are objecting to this. We are having to find new ways of handling the application of chemicals. We now hire, in many areas of California, a whole new industry of entomologists, that is, people who know bugs, who come down and count the bugs on our fields before we use the chemicals, which helps us to save a lot of money on chemical applications and generally does a better job of getting rid of the bugs. But the point is, we have common problems throughout the United States that we are going to have to look to knowledge, information, to solve. We cannot any longer depend upon just doing the same old things that we used to do. And this year's farm bill is going to give us an opportunity to write into law some of these concepts that will make it easier for farmers to adapt to the changing conditions that face us in the world today.

All right. Now that helps me catch up with your opening statement. I am now very happy to turn the gavel over to Mr. Jontz, and he will conduct the rest of the meeting.

We have about 3 hours or so before we have to leave, which means that the witnesses will have to use a certain amount of discipline. We hope they can confine their oral remarks to 5 minutes, or not more than 10 minutes. Their written statements will go on the record, and that will leave us time to question the witnesses in each of the panels. Hopefully we will have a very productive session here this morning. Mr. Jontz, will you take over at this point.

Mr. JONTZ [acting chairman]. Mr. Chairman, thank you, very much again. I will introduce all of the panel members and then ask them to proceed in making their statements. Then we will have an opportunity to question all of the witnesses at that time.

David Miers, who is the deputy commissioner of agriculture. We welcome you, commissioner, and appreciate your appearance today. Dr. Stephen Lovejoy, director of the center for alternative agriculture at Purdue; Ed Heckman, who is a Cooperative Extension Agent from Grant County, Indiana. Ed, we appreciate your coming over and finding Dr. Eldon Ortman, associate director of the agriculture experiment station at Purdue University. We certainly appreciate the role that Purdue University plays, that the Extension

Service plays, and that the State, through the Lt. Governor and the Department of Agriculture in Indianapolis plays. And we welcome all of you this morning and appreciate very much your willingness to speak to the issues today. David, we will have you go first.

STATEMENT OF DAVID L. MIERS, DEPUTY COMMISSIONER OF AGRICULTURE, STATE OF INDIANA

Mr. MIERS. Thank you very much. Good morning, Mr. Chairman, Congressman Jontz, and Congressman Grandy. My name is David Miers, and I am the deputy commissioner of agriculture for the State of Indiana. On behalf of Governor Evan Bayh, Lt. Governor Frank O'Bannon, we are very pleased that you have chosen Indiana to come here for one of your hearings.

In Indiana, the commissioner of agriculture is a lieutenant governor. Lt. Governor Frank O'Bannon had a previous commitment this morning, and he sends his regrets to you. He asked me if I would represent the State at this hearing, and I am really honored to do so.

Sustainable agriculture generally means production methods that conserve our natural farm resources, while, at the same time, are profitable, competitive, and productive. These production systems make use of crop rotations, conservation tillage, and new plant varieties to make it work.

A considerable amount of research has taken place in the last few years to determine more effective ways to quantify the nutritional needs of crops and the most efficient control of pests that harm these crops. The State of Indiana has participated in this research by allocating $250,000 toward eight demonstration plots throughout the State to showcase sustainable agriculture in 1988 and 1989. Over one-quarter of 1 million people have viewed this research at these demonstrations. The practical application of this research is the foundation upon which farmers will build their sustainable agricultural program.

Indiana farmers spent over one-half a billion dollars on commercial fertilizers and chemicals to control pests in their crops in 1987. Some say that the existing Federal farm programs cause farmers to spend more than they normally would, as participation in programs often disrupts the normal production and rotation practices that allow for natural control of crop pests, as well as replenishing soil nutrients. The interaction of the soil, the crops, and the pests that threaten them, both the land and the grain, to say the least, is complex. However, every soil type and every crop produced has a point of maximum effective yield. This is to say that every crop and soil combination, utilizing existing technology, has a point of diminishing marginal returns. And after that point, it is not profitable to continue to apply fertilizer and chemicals, because yields will not increase.

Many farming operations have production practices that call for set amounts of fertilizers and pesticides to be applied to each acre each year, often without regard to the previous crop. This allows for an excess of these compounds to be present in the soil and, in some cases, even to build up to levels that the surplus could be detrimental to the crop. Likewise, if there is more fertilizer and pesticide applied to a soil than either the soil or the growing crop can absorb, then the potential exists for this excess to find its way into the ground water.

These environmental concerns, as they encompass low-impact farming, maximum effective yield, food safety, and ground-water pollution, are of primary importance to the agricultural community within the State of Indiana. Of secondary—but no less vital—importance is the need for flexibility to be built in within the 1990 farm bill that would allow farmers to rotate their crops where possible in order to achieve the benefits outlined earlier. We are aware that Congressman Jontz has proposed flexible crop-rotation provisions in the 1990 farm bill, and we thank him for that initiative. The farm bill should also be flexible enough to anticipate changes in the world marketplace and allow American farmers the opportunity to take advantage of those changes.

We recognize the need for Americans to be able to produce a safe, abundant food supply, not only for our own citizens, but for the hundreds of millions of people all over the world that we feed. Nearly 3 out of every 4 bushels of grain produced in Indiana is exported, so we are acutely aware of the need for the Farm Program that allows our farmers to produce for the marketplace.

On behalf of the commissioner for agriculture, Lt. Governor Frank O'Bannon, we ask that you consider our position. Thank you very much for this opportunity to be here today.

[The prepared statement of Mr. Miers appears at the conclusion of the hearing.]

Mr. JONTZ. Mr. Lovejoy.

STATEMENT OF STEPHEN B. LOVEJOY, COORDINATOR, CENTER FOR ALTERNATIVE AGRICULTURAL SYSTEMS, PURDUE UNIVERSITY

Mr. LOVEJOY. Good morning, Mr. Chairman, members of the subcommittee. I am Steve Lovejoy, coordinator of Purdue University's Center for Alternative Agricultural Systems. I appreciate this opportunity to testify about alternative agriculture and how agricultural production can complement society's desire for a cleaner environment.

Society is concerned about the quality of the environment. All the polls suggest that Americans want a cleaner environment, even if they have to sacrifice economic growth or deal with increased regulations.

What this implies is that society is telling all sectors of the economy, including the agricultural sector, that they want a different mix of output. In the 1970's, society was giving the agricultural sector the message to produce, produce, produce. Agriculturalists were asked to produce as much as possible to sell on the world market. Rarely did individuals or their representatives ask about the off-farm effects, like water quality or wildlife habitat. However, in the 1990's, this is no longer the case. Society is giving the agricultural sector the message that they no longer want food produced as cheaply as possible. They want relatively inexpensive food, but they also want a better environment.

Our job—you, as elected Representatives and members of the House Committee on Agriculture, and mine, as an agricultural scientist—is to help the agricultural sector to produce the desired mix of outputs and to help society determine the exact mix they desire and the trade-offs they are willing to make.

Agriculture realizes that many people are concerned about the environment and, I think, are increasingly realizing that this may require changes in their operations. As a farmer recently stated in "SoyBean Digest:" "Farming is a service industry—if the other 97 percent of the population worries about water quality and food safety, farmers had better figure out how to make a living by farming in a way that meets those needs."

In light of these concerns, there are many types of agriculture that are being advocated to meet these changing societal goals, including low-input, sustainable, regenerative, holistic, alternative, organic, agroecologic—a plethora of different types of agriculture.

Each of these perspectives has a point. Mainly, what is needed are changes in human behavior, alterations in the way we produce food and fiber in order to provide this desired mix of outputs. Protection of our environmental resources will require us to alter our soil and water conservation programs, as well as our agricultural programs and production practices. However, we must do this in an intelligent manner, keeping in mind the dual goals of food production and environmental quality. Policies to achieve these societal goals will require the following orientations.

First, we must target our efforts and resources to those regions, those counties and those acres where agricultural production imposes unacceptable damage to the environmental resources. Universal, across-the-board policy instruments will be extremely inefficient.

Second, we must develop programs and mechanisms which permanently alter production patterns that impose unacceptable damages upon environmental resources.

Third, we must carefully examine proposed production changes for their impact upon food supplies, prices, local communities and farm families, as well as their impact upon environmental amenities, health risks or ecology.

Most farmers want to be good stewards of the land. We need to help them in their search for production systems which will produce the food and fiber desired by consumers and to provide the high-quality environmental resources demanded by our citizens.

In general, public agencies at the Federal, State and local level must provide farmers with the information and incentives necessary to utilize those production practices, those crop rotations, those chemical applications and animal-production practices which maximize production of food and fiber, but minimize the impacts upon environmental resources.

Purdue and the center for alternative agricultural systems, in fulfilling our obligation to the citizens of Indiana, will foster and promote interdisciplinary research, extension, and teaching in the area of alternative agriculture, including thrusts in low input and sustainable good management practices.

In short, Purdue University, the school of agriculture, and the center are interested in assisting producers in Indiana with alternative production systems which meet society's environmental goals and the producers' economic goals. In addition, we want to help society in general, through its representatives like the members of this subcommittee, to refine their environmental goals in such a way that we get a clean environment and maintain a healthy and productive agricultural sector.

More germane today is what is needed from the Federal Government, especially in the 1990 farm bill, to assist the producers in meeting society's needs. The following would greatly assist.

One, remove disincentives or barriers to alternative systems that are present in existing commodity programs.

Two, encourage long-term protection of environmental amenities through voluntary easements for filter strips, wetlands, and other critical environmental areas.

Three, institute mechanisms for ensuring environmental protection from existing or potential CRP acres when the contracts expire.

Four, provide for additional research on alternative agricultural systems, including the effects upon environmental resources, commodity prices, local communities and farm families.

Five, provide for increased dissemination of information that we presently have, as well as new findings, so that agricultural producers can make better-informed decisions in their efforts to satisfy society's desires for food production and a clean environment.

In summation, America's farmers need assistance in meeting these societal goals. And the 1990 farm bill can be a strong signal to them that Congress and the Federal Government are ready to cooperate and help them.

Thank you for this opportunity to testify today.

[The prepared statement of Mr. Lovejoy appears at the conclusion of the hearing.]

Mr. JONTZ. Mr. Heckman.

STATEMENT OF EDWARD HECKMAN, EXTENSION AGENT, GRANT COUNTY COOPERATIVE EXTENSION SERVICE

Mr. HECKMAN. I am Ed Heckman. I am an Extension agent in Grant County, which is Marion, Indiana. Thank you for the opportunity to come here this morning.

As I prepared my report for you, I tried to define in my own mind what sustainable agriculture was, and I really put a number of things in that definition. One is that we want to use fewer inputs as we produce agricultural crops, and we might use the term "Integrated Pest Management," or IPM in that category. Organic farming has been used as a term in the past, and we are using those practices today.

One of the concepts would be cropping systems with rotations that include a small grain, a grass, a legume, or a grass-legume combination, as Mr. Jontz mentioned earlier this morning. And also new crops would fit into this. Even though we have had crop rotations in the past, I considered it somewhat of a new idea, and I asked the question, "How do agricultural producers accept new ideas?" I have outlined that in your report, and I would say that there are certain people out there who are innovating or experimenting all of the time, and we need to encourage them to do that. But I did note that history provides us with very few examples of ideas that have been accepted with great speed, and I also listed those in your report.

What encourages agricultural producers to try a new practice? Generally the two front runners are stewardship and economics, with economics being a major force. The questions are asked: "What will it cost me as a producer, and what will be my returns?" These two questions are very important.

One of the characteristics of sustainable agriculture is to minimize the use of agricultural chemicals without drastically reducing crop yield. This particular goal is shared by many farmers as they look at cost and profit margins. Reduced cost is one advantage. What are some of the costs? I would cite Dave Mengel's work on one of his experiments at Purdue in that one of the results showed that the management level must be very high to make some of these sustainable agricultural systems work. That is because we are working with small grains and legumes that some of our producers are not working with all the time. He also found out that the labor requirement per acre increases noticeably.

What incentives can a group or an agency offer to producers to encourage them to accept sustainable agriculture more quickly? Flexibility, as others have mentioned, comes into action here. The current corn and wheat bases are very important to producers. Allowing them to grow crops without penalty to their bases is a step in the right direction. Another possibility would be to allow producers to experiment with uncommon crops or systems on current set-aside acres. This would increase their management and confidence level without sacrificing the income on productive acres. The ACP program has been used for a long time to encourage soil conservation practices. Maybe specific plans could be designed to enhance sustainable agricultural practices.

Another incentive would be to design programs that are "user friendly." Keep the objectives and requirements very practical and easy to understand and to implement. Customer satisfaction must be high for a program to be accepted at a high level. By the time the Conservation Reserve Program contracts expire, as Mr. Lovejoy indicated, more research results, experience, confidence, and incentives will be developed. Plans will need to be made to bring that program's acres back into production, with appropriate guidelines if they are brought back into production.

Sustainable agriculture is a part of U.S. agriculture. We have been doing parts of it for a long time. It will continue to be accepted at a gradual pace. If you want the pace to be faster, you need to increase the research efforts, educational efforts, and incentives.

In summary, sustainable agricultural practices have been used throughout our country's history. Some producers will continue to use them because of their stewardship values. Additional producers will be encouraged to use them when future research results and producer trials provide more information and confidence. Agriculture has always responded to positive economics, and it will continue to respond to economics and incentives.

Thank you.

[The prepared statement of Mr. Heckman appears at the conclusion of the hearing.]

Mr. JONTZ. Mr. Ortman.

STATEMENT OF ELDON ORTMAN, ASSOCIATE DIRECTOR, AGRICULTURAL EXPERIMENT STATION, PURDUE UNIVERSITY

Mr. ORTMAN. I am Eldon Ortman, associate director of the Purdue Agricultural Experiment Station. Pleased to have this opportunity.

Sustainable agriculture, low-input agriculture, has gained national attention and will have an increasing impact on practices in the agricultural sector. Integrated pest management must be a critical component of a successful program in sustainable agriculture. The concept of sustainable systems is inherent in the philosophy of IPM. The Office of Technology Assessment has stated that the key aspects of IPM are: Optimization of pest control in an economically, ecologically, environmentally sound manner. The National Research Council, in its publication, "Alternative Agriculture," has indicated the important and the relevant role of IPM.

Let me cite just one example from agriculture in Indiana, a research development contributing to sustainable agriculture: Development of plant wheat germ plasm, varieties resistant to Hessian fly and plant diseases. This research development has negated the need for insecticides to be used against a primary pest. I appreciate the comments that Congressman Brown made relative to entomologists, because I am one. Thank you.

Wheat varieties with genetic resistance to Hessian fly mean that we do not need to use pesticides. Those wheat varieties have been grown on over 80 percent of the Northeast U.S. wheat acreage. The Hessian fly, however, has also been at work. Strains of the fly have developed in nature, and they are able to infest those resistant varieties. Thus it is a continuing battle. There must be a continuing program to discover unique genes that will allow us to continue to develop plant resistance. Those unique genes have been discovered. The tools of molecular biology will make it possible to move those genes to our common wheat, thus imparting resistance and thus contributing to sustainable agriculture.

While science and technology offer these opportunities to develop environmentally benign, pest-control strategies, there are still some significant questions as to whether to societal and political agenda will permit the full utilization of these scientific advances in the practice of sustainable agriculture as it relates to pest management. There is a need for Federal policies and programs to facilitate and promote those agricultural practices that are environmentally sound, protect human health, and sustain economic wellbeing.

Let me cite another example of a policy-related problem, that is, corn rootworm complex, a serious pest in corn production. Corn rootworm control represents the single largest use of an insecticide in the United States, right here in the central Corn Belt. Primary control of corn rootworm can be achieved by crop rotation. It is the first recommendation that we make in our Extension publications. However, as you know, the 1985 farm bill includes certain provisions for compliance and payments that do not facilitate the planting of an alternative crop on certain acreage. Thus, in developing a farm bill, consideration must be given to the biology of agriculture.

A nationally renown ecologist and environmentalist, John Muir, has said, "When one tugs at a single thing in nature, he finds it attached to the rest of the world." There are a multitude of examples of this situation in agriculture. Permit me to cite just one example of what looks like good policy and yet has potential negative impact. As a part of the CRP program, many acres have been seeded to cover crops. Those acres are generally less well attended and producers expect to make less investment. Serious insect problems have emerged from those acres in recent years. The seeding of wheat and its management in those acres has contributed to a marked increase in the Hessian fly problem. During the drought of 1988, spider mite was greatly exascerbated by the CRP acreage. It provided the initial infestation. It provided the reinfestation of treated fields. It is a clear example of an impact of a changing agricultural practice on pest problems and its very direct linkage to farm-policy issues, policy development, policy implementation.

IPM is one component of agriculture that has sought to make changes. We believe we have been successful to some extent. For example, since the late 1970's, in Indiana there has been a reduction in farm rootworm pesticide use to the tune of 400,000 pounds. IPM has played a role in that reduction. Changes and practices can be achieved.

Many of the tactics that need to be developed for IPM will not have a profit component. They will, therefore, not be developed by agribusiness and industry—thus there is a significant need for public investment.

In summary, let me say, research and technology transfer as a potential, provide a base of information to evolve an agricultural system which is less environmentally intrusive, yet fosters sustainability and competitiveness. In the development of a new farm bill and environmental legislation, it is imperative that there be language which provides appropriate management flexibility, that it facilitate development and creativity and that it provide incentive and resource development to implement pest management, and environmentally sound practices for sustainable agriculture.

Thank you.

Mr. JONTZ. I want to thank each of you for your statements, and we will now proceed to questions that the members of the subcommittee may have. Let me recognize the chairman first for any questions that he might have.

Mr. BROWN. Mr. Ortman, I am a little disturbed about what you are saying about the problems created by the development of pests in this CRP acreage. It is the first time that that situation has been called to my attention. What conclusions does that lead you to as to what might be done about that situation? Better management of the CRP acres, chemical applications or something like that?

Mr. ORTMAN. The reason for my mention of that situation is simply to bring our attention to the fact that while CRP programs are excellent programs, it does have an impact on the total of agricultural production. I cite it as an example that we need further research and information generation to understand the intricacies and the interrelationships of agricultural systems as we strive to move forward in sustainable agriculture. I do not present it as a critique of the CRP program. I think the CRP program is an excellent one. I was only trying to emphasize that when we do one thing in one section of an agricultural system, it has an overall impact that we need to be aware of.

Mr. **Brown**. You are just calling for the education of more entomologists and other scientists, instead of more farmers. Is that right?

Mr. **Ortman**. We are suggesting that information transfer needs to occur, and I believe in your own State you cited the value of the consultants out there in the agricultural sector. I would suggest to you that many of those people have received education, hopefully at your excellent universities in California, and that they have also learned a whole lot by experience and practice out there in the field.

Mr. **Brown**. Yes. Their salaries are paid by the farmers, so the farmers must feel that they are getting their moneys' worth from the services of the entomologists. I am sure you are aware that what they are doing is identifying the bug population—advising the farmers on when to spray their insecticides, and so on. By doing that properly, they can save a great deal of money, as well as protect the environment more effectively.

Do you think there is a possibility, in connection with this problem that you have mentioned, that a more aggressive IPM research program might produce some solutions to this situation?

Mr. **Ortman**. I frankly think that is a possibility. There is a great interest in the IPM community and we have, in fact, put together a proposal for a biointensive IPM which places emphasis on the biology of the system, and looking at how one might manipulate and manage the system biologically, culturally, and impact pest problems. There is a major proposal as a part of the national initiative for research on agricuture, food, and environment and as part of the extension initiative to look at biointensive, the use of biological organisms. I am sure you are aware that B. thuringensis is a good insect-control pathogen. They have now engineered that into several crops, and we are waiting to see whether, in fact, we will be able to utilize that in the field beyond the experimental scenario.

Mr. **Brown**. You made some reference to the research initiative, didn't you—I think one of you did at least. It originated with the National Academy of Sciences' proposal for an increase of agriculture research funding by $500 million. The Department of Agriculture accepted this, but the Office of Management and Budget was not quite that generous, and they ended up with an extra $50 million in research funding. But it is specifically aimed at some of these new areas of research which have not received adequate funding. And of course it is based on a competitive-grant type of thing, rather than going through the land-grant college system. Would you care to say a good word about that so that we can carry back a little support?

Mr. **Ortman**. Well, certainly the advance of science in the United States has created new opportunities for agriculture. Molecular biology, biotechnology, genetic engineering has created excellent opportunities for developing crop varieties, for example, that resist insect and disease—through the incorporation of new genes from unique sources. Science has created those opportunities. The application of that science to agriculture is what we are looking to support through funding the $500 million initiative. There are many areas of opportunity in terms of crop development, alternative crops, the specialization of crops to new market opportunities, both in the United States as well as internationally. The development of a soybean variety to process for tofu would provide a major commodity use for soybeans relative to export. These are the kinds of things, for example, that the $500 million initiative could support.

Mr. BROWN. Thank you very much. The members of this subcommittee are sympathetic to this because it is not within our own jurisdiction, but I am not sure that most Members of Congress yet understand the importance of this new initiative. And we are going to need to do some work on them to get full approval. Thank you very much. Mr. Jontz.

Mr. JONTZ. Mr. Grandy.

Mr. GRANDY. I thank you, Mr. Jontz. Let me go back to you, Dr. Ortman, and pursue something that Chairman Brown was talking about, because I am not sure I understood you on the CRP question myself. When you were talking about spider mites—in 1988 was it, when we had the drought—what was specifically the problem as the CRP relates to the spider mite infestation in that drought year? Was it due to the fact that there were too many acres in the CRP, too much land down at production, causing overapplication of chemicals on bean acres? Or is there a problem with infestation in the CRP acreage itself?

Mr. ORTMAN. CRP acreages are frequently planted to a long-term crop as opposed to the annual rotation. In that situation, a crop provides a haven for pest species, as well as beneficial species of insects. It happens that in 1988, as a drought year, spider mite populations built up in some of the CRP acreage and moved from CRP acreage into soybeans. The spider mite problem was markedly enhanced by drought conditions.

Mr. GRANDY. Yes. I know that.

Mr. ORTMAN. And as a result of that, we had a build up of spider mites in CRP acreage. They moved out into soybeans. Soybean fields were treated quite extensively in the State of Indiana; however, after treatment with short residual pesticides—which is what we recommend and primarily use today—those pesticides dissipated. As a result, the soybean acreages were reinfested frequently from CRP acreage. Producers do not invest great amounts of money in the control and management in CRP acreage.

Mr. GRANDY. That is your point, then, is it not?

Mr. ORTMAN. That is right.

Mr. GRANDY. That there will have to be a new strategy for maintaining—and I assume a new integrated pest management for conservation acres, then.

Mr. ORTMAN. That is the point. We could look at what other crops and what other commodities might we plant in CRP acreage that does influence or enhance the pest problems related to the production acres.

Mr. GRANDY. Well, that is an interesting idea, because at least by the administration projections, we have about 6 million acres yet to be signed up. Obviously, if producers are generally aware that there might be a spider mite problem which they would be encouraging themselves—you have to take some preemptive moves. But that leads to my second question, which is: You are a scientist. How much receptivity is there toward a technique like integrated pest management at the average producer level? How tough to sell is that going to be? We use it in Iowa. It has some popularity, obviously. We have a large research and application interstructure with Iowa State University in the Extension Service there, but how close are we to kind of spreading integrated pest management across the entire farm sector, so that it becomes a viable alternative to pesticide application?

Mr. ORTMAN. Several comments to that. I think we would, in general, say that we see enhanced receptivity by the production sector for pest management. We see increasing attendance at programs that we develop. One of the programs that we have developed, for example, is a field crop diagnostic clinic, where we create problems and teach diagnostic skills. That is annually oversubscribed. The interest, the receptivity on the part of the producer to do the right thing relative to pest control, I think, has increased over the last several years. We simply do not have all the techniques and the tools to do all of the things relative to pest management. I would also hasten to add that in our definition of pest management, it does include the responsible use of pesticides. We would look at the first line of defense, such as biological controls, alternative cropping systems. But pest management, in fact, does include judicious use of pesticides.

We are seeing an increased request for information relative to IPM. The number of private consultants in Indiana, acreage that is being managed through the consultant activity, is increasing.

Mr. GRANDY. May I ask you a question at this point in terms of private industry getting involved in the integrated pest management education strategy. Are there certain chemical producers that are aiding and abetting you in this effort that might have an invested interest in educating their consumers in the proper application of a pesticide as it relates to integrated pest management? My question, simply: Are you getting any help from industry, or are they, in a sense, competing with your particular movement?

Mr. ORTMAN. We do get support from industry for integrated pest management. The Indiana Plant Food and Ag-Chem Association, for example, has been a major supporter of the development of the diagnostic center. Industry does support research and development, the support of graduate students. Much of that research, support that we receive, is not tied to specific pesticide development, but rather tied to the improvement of IPM management practices. So yes, there is support from the private sector. I would hasten to add, though, that many of the techniques that we see in biointensive IPM will not have a profit motive, thus are less likely to be supported by industry.

The seed industry is also interested in pest management and provides resources to assist in the development of genetic pest resistant plants.

Mr. **Grandy**. I think I will end my questioning there, Mr. Chairman, and save what I was going to say for the next round of farm organizations. Thank you.

Mr. **Jontz**. I have a couple of questions. Mr. Heckman, you mentioned in your testimony that sustainable agriculture requires a relatively high level of management. Give me your assessment of the extent to which you, at the Cooperative Extension Service in Grant County, Indiana, are prepared with regard to available resources and availability of research to assist farmers with the increased level of management that would be anticipated as more producers are interested in sustainable agriculture.

Mr. **Heckman**. I received that particular quote from Mr. Mengel at a training session, and it was based on one of his research experiments that used a long rotation. He simply said that everybody needed to be on top of when to cut the different crops in order to get the nitrogen back into the soil and manage that particular system. We, in Grant County, are typically a corn and soybean county—or it should be soybean and corn—and so we have not grown grasses and some small grains and some legumes for some time. And so there would have to be some new information distributed to people. There are some of the younger farmers who have not grown those at all. I would say that we are ready to help them with that, but we would need some more information from Mr. Mengel and other projects that he is doing in order to raise the management level. We just cannot go out there and put these crops on the soil, like Mr. Ortman was saying we do with CRP, and expect to get the maximum return from the system. So it is a system approach rather than a crop approach, and that is what we are going to have to change.

Mr. **Jontz**. So you would anticipate a bigger burden on Extension and, at least in the case of Grant County, you would be talking about some things that you have not been talking to producers about as much over the last few years.

Mr. **Heckman**. That is right. We would be talking more about manure management for the livestock farmers who have that product to use, and we would need more information, and we would need more training after the research was done.

Mr. **Jontz**. Let me ask you this question. If we provided protection for producers who want to engage in some traditional rotation from the standpoint of preserving their program base and their program payments, what proportion of the current program participants in Grant County do you think would be interested—interested at least enough to come in and talk to you or to put together, to give some serious thought to a proposal. If we provide that sort of flexibility, just based on your knowledge of the producers in your county, how many do you think would be seriously interested in it?

Mr. **Heckman**. Part of that would depend on where that system was appropriate in Grant County. We have to acknowledge that there are different soil types and different cropping systems, and so the sustainable agriculture, as I defined it with long-term rotation, fits about one-third of my county. I would assume that probably 50 to 100 farmers would probably be more interested in a system where the bases were protected.

Mr. JONTZ. Out of how many producers do you have in the program now?

Mr. HECKMAN. This past year we had 468, but our maximum—not our maximum, but our highest, was 804 in 1987. So we have lost almost one-half of them in 2 years. I am also dealing with a smaller portion of my county when I give you that answer. So I would say that we would gain back 50 to 100.

Mr. JONTZ. Let me ask Dr. Lovejoy and Dr. Ortman this question. One concern I have with regard to research is that we need to be doing more systems research; that the academic community has not, maybe traditionally, encouraged systems approaches, and that, as a consequence, we do not have enough work done on that area, and that there really will be a need to make some shifts in terms of how we approach those research questions. Would either of you want to comment on that with regard to the work that you are doing at the present time?

Mr. LOVEJOY. I think that is the—within 1989, the university formed the center for alternative agricultural systems and purposely put the concept of systems in there so that all of the research that is going on within the center is taking a systems approach. All of its interdisciplinary research, where we are not just looking at one aspect of changes in production practices, but a broad range from biological, ecological, and economic. And so I think that additional resources for that kind of research would certainly be helpful. We are moving in that direction anyway. I think, as Mr. Heckman indicated, the agricultural sector is moving in the direction of sustainable agriculture. The question is, do we speed that along? The same goes with university of agricultural research. We are moving in that direction. The question is, are we going fast enough to satisfy the public desire?

Mr. JONTZ. Dr. Ortman, do you have anything to add?

Mr. ORTMAN. I certainly agree with that, and I would say that systems research is a long term and a large program. You are looking at multiple variables, and we need to find the research dollar support to implement that kind of activity—certainly a direction that we need to go. We are trying to move in that direction, but it is a large program that needs to be engaged over a long time.

Mr. JONTZ. One final question that I might ask to Mr. Heckman to Mr. Miers. What about the question of on-farm research? Do we need a lot more on-farm research in order to make the extension work that you are doing or would be doing more feasible? Would that be helpful? And in the case of the State—again, David, you have a statewide perspective—do you think we need to be doing more in terms of on-farm research?

Mr. MIERS. Yes. I would think that we should be doing more of that. I would like to add here, though, that I am a farmer, as Representative Jontz knows, from southeastern Indiana. In 1975 I helped found an integrated pest management corporation. At that time there was a lot of interest in that. The question was asked if there was much interest in people participating in this type of a program. We grew from a very small acreage in our corporation to over 23,000 acres in Decatur County, Jennings County, Jackson County, and Bartholomew County in a matter of 4 years. So there was really a lot of interest at that time. Then in 1983 came the drought, and also that was the pick year. Interest waned from that point on. Since then we have sold the company, but there has never been as much interest in that as in the past, as farmers felt they could not justify the cost. Also, it depends on what services were wanted and what was offered, but it enabled the farmer, at $4 an acre, to have their fields scouted on a regular basis. In our own operation, we found it extremely beneficial to have a service like that taking place throughout our operation.

Mr. JONTZ. Mr. Heckman, on the farm research question?

Mr. HECKMAN. Excuse me. I remember back in 1975, I was involved in a program of integrated pest management with alfalfa in La Porte County. The department of entomology had created the threshold and the scientific information on their plot research, and they came to La Porte and a couple of other counties and asked dairy farmers to, "loan them a field." The fields were then scouted, and we were able to then reply to the larger-scale survey findings. Based on that, then, we have developed statewide IPM alfalfa information. I thought that was a very important program, and I would encourage those kinds of things to continue.

Dr. Ortman has a couple of comments.

Mr. ORTMAN. We have been involved, as both gentlemen have indicated, in field research, on-farm research. We see that in terms of our research and the extension program that field research is a very important component. It is important to take research from a small plot to the actual practice to see how it works and to get additional data from actual on-farm practice.

Mr. JONTZ. Let me thank this panel, unless any of the other members of the subcommittee have additional questions. We appreciate your testimony, and let me call the next panel forward. I believe you know who you are, so please take your seats.

I do want to make a couple of introductions or acknowledgements while the next panel is coming forward. We do have a couple of classes who are with us today, and I want to welcome Tom Dougherty and the FAA and farm business class. We appreciate your coming over. We also have a class here from Pioneer High School with us. Is it a government class? U.S. history. All right. Well, we appreciate your being with us today, and we hope you find this an interesting experience. A couple area residents, in particular, that I might introduce: Dick Ross, our Cass County Extension Agent is here in the back row; Merlyn Funk, our Cass County Farm Bureau president is here; and I also want to take one-half a minute while the panel is getting settled in to acknowledge the cooperation and the assistance of my agricultural advisory committee. They have not met for a while, but they will be meeting very soon, because we have some work ahead of us. Would the members of my agricultural advisory committee who are here today please stand. There are several of you here. That is good. Do not be bashful. Thank you. I appreciate it. The committee has been very valuable to me—not maybe so much as a group that I could consult with as a body, but certainly as individuals. They have been very generous with their assistance.

Let me introduce this panel and then ask them to proceed in testifying, as we did with the last panel. First of all: Harry Pearson, the president of Indiana Farm Bureau; Harold Wright, president, Indiana Farmers Union; Larry Erb, vice president of the National Farmers Organization in Indiana; Phil Anderson, the executive director of the Corn Growers Association; and Tom Milligan, who is director of the Indiana Soybean Association. So we welcome you here today and appreciate your leadership in agriculture in Indiana and look forward to hearing your views about the various proposals and ideas we had presented to us on sustainable agriculture.

Mr. Pearson, we will have you go first.

STATEMENT OF HARRY L. PEARSON, PRESIDENT, INDIANA FARM BUREAU, INC.

Mr. Pearson. Thank you Mr. Chairman, committee members. I am certainly glad you brought this hearing to Indiana. My name is Harry Pearson. I am a farmer in Blackford County, about 70 miles East of here. I have a farm partnership and also have a son in the operation. We are primarily grain farmers. I am also president of the Indiana Farm Bureau and also on the board of directors of the American Farm Bureau Federation. If I might, this morning, I would like to submit written testimony and then make some additional comments and introduce you to that.

Congressman Jontz, I would like to commend you for introducing H.R. 3552. As we look at that, we certainly feel it is a good starting point. It recognizes good farm-management practices that address the environment and are still beneficial to the producer, and I think those are very important aspects of it.

It is interesting, as you look at agriculture and many acronyms that have been associated with agriculture over the last few years. Maybe we have had more than our share, but we have talked PIK, IPM, CRP, CARP, ECARP, and now LISA. And I think probably it has been mentioned, LISA is as little understood as any of them, and there are certainly a lot of definitions even today as to what that means. It means different things to different people. I think one of the questions it raises is when does low input no longer become sustainable. I think that is one of the questions that has been talked about a little bit this morning and continues to need to be addressed.

I raise that question really as a beginning point, because if we look at the report entitled "Alternative Agriculture," which is a 417-page report from the National Research Council, their conclusion is—or their assertion is—that most low-input farmers produce just as much as do their neighbors. In fact, they often produce more at a significantly lower cost. Yet they do not identify any studies to compare the costs or the benefits of conventional agriculture with successful alternative systems. But yet when we examine the survey of a long-term study that was done recently in eastern Nebraska on conventional alternative systems, which was done by one of the alternative agriculture committee members, which was a 10-year study from 1978 to 1987, as I looked at the conventional systems, which is basically corn/soybean—which is typical of Indiana—with herbicides and fertilizers, compared to strictly no chemicals, with manure as a source of fertilizer, and that had a rotation of the corn/soybeans, corn/oats rotation results in just a—you have a summary that the conventional returned approximately 70 percent higher, with yield differential of something like 24 bushels. The yield differential may not be substantive. I would think it is, but particularly in terms of conventional, it was 70 percent higher than the alternative system. I mean, it is a significant difference.

My point in saying that is that I think LISA needs to be looked at very carefully, and certainly more information and research, as has already been mentioned, is needed before we charge full-speed ahead.

Our position would be, I guess, from an organizational standpoint here in Indiana that: No. 1, the research results should be considered in determining whether the various areas of LISA can provide acceptable production practices; and the second point would be, then, that LISA, only when farmers using this concept are not expected to take a reduction in profits to do it.

To say that, then, I make three observations and make additional comments about H.R. 3552. My first observation would be that farmers do not use inputs without regard for cost or impact on the environment or without good resource management. I think too many times the perception becomes reality in the minds of many people that the conventional means unrestrained use of chemicals and fertilizers, I will just say, that simply is not true. The second observation is that there are varying degrees of feasibility for some alternative farming methods. Many of these alternatives are being used, such as rotations, reduced tillage practices. And these in themselves translate into lower fertilizer and chemical use. The third observation would be, then, that no single method of farming will fit everyone's farming operation. Because of that, we would support programs that allow farmers to select a combination of inputs and practices that are viable for them.

I cannot stress enough really, then, that these programs should be voluntary and not mandatory. If they are voluntary, then I think long term we will come closer to the desired results we are all talking about.

In general, then, we support H.R. 3552, but I would raise a couple of points on it. I think one of the comments that is in that bill is the budget it will have. One of the points that has not been made, and I think needs to be made, that the budget will have some impact on the 1990 farm bill. Now that is probably an understatement. We talked about involving the Extension Service, ASCS Soil Conservation Service, to provide technical assistance. That is good and is certainly needed. But all of these services cost money. And I say that, because if that money comes from some other ag-support areas, then that leaves other concern long term. If those costs become excessive, as with many other areas, then I think it could have an impact on the support of the bill from the total agricultural community.

My second point, as it relates to title II of the bill, it makes a statement that base history should be maintained, and we support that. I think it should be. The second point is that the payments would also be made on nonprogram, resource-conserving crops. And, saying that, it raises a couple of questions that at least need to be considered. I am not sure that this would fit the market directive of 1985 Food Security Act, and I am assuming the 1990 farm bill will continue in that direction. The second question I think should be considered is that it may provide inequitable competition for producers of nonprogram crops. I think that is one that needs to be addressed.

Closing comments, then, in addressing LISA. I think, that greater flexibility of the 1990 farm bill, which has already been mentioned, as a single issue will do more to enhance crop rotation and reduce use of chemicals and fertilizers more than anything else that can be done. My second point would be, that research has been mentioned. Research funding must not be overlooked as we address the 1990's. I think that is where most of the answers will be found. There is talk about $500 million, and we certainly support that funding. That funding needs to be increased not only at that level, but also the State level as well.

With those comments, I certainly appreciate for the opportunity to appear and look forward to working with you on the 1990 farm bill.

[The prepared statement of Mr. Pearson appears at the conclusion of the hearing.]

Mr. JONTZ. Thank you. Harold.

STATEMENT OF HAROLD WRIGHT, PRESIDENT, INDIANA FARMERS UNION

Mr. WRIGHT. Mr. Chairman, I am Harold Wright. I am president of the Indiana Farmers Union. My brother and I farm in Delaware and Grant Counties, Indiana. Now Mr. Chairman, I want to commend you and Congressman Grandy for coming to Indiana. I want to say to you that we are real proud of our Congressman from Indiana, who is our representative on the House Ag Committee. Until Congressman Jontz agreed to be on this committee, Indiana was without representation, on this very important committee, to our family farmers of Indiana; and I think he probably had more hearings here in Indiana on behalf of agriculture in the 3 years that he has represented us than there has been anytime since I have been farming—and I have been farming for over 40 years in Delaware County. I want to commend Congressman Jontz for his efforts on behalf of our farmers of Indiana.

In my opinion, the most important thing we could do to have sustainable agriculture in Indiana and in our Nation is to really have a sustainable family farm system of agriculture. When I look at the record of agriculture in our Nation, it is my observation that it is our family farmers who have been those good stewards of the soil: The ones who lived there, who worked there, and the ones to leave this soil in better condition when they leave than it was when they took it over.

In my opinion, the 1985 farm bill was one of the things that really did some serious damage to our environmental ecology here in agriculture. No. 1, it lowered farm prices. I am a farmer and I have to look at that bottom line, which is income in my farm. Really, the agricultural policy in the last two decades has forced me to do everything I could to get the greatest input per acre off of my farm if I was going to stay on that farm. In doing this, I have been aware from time to time that I have probably done some things that, if I were to have had a better economic climate, I would not have done.

I can remember when I first started farming in Delaware County in Indiana that there was my neighbor who had a 4-year rotation. Now that rotation was corn, soybeans, wheat, and grass. He was not a livestock farmer, so he left that grass lay idle. And then he plowed it up in the fall or in the next spring, because we did not do much fall plowing back then. So that went back into the soil to rebuild the soil. I want to point out that, at that time, the farmers were getting 100 percent of parity for their commodities, so they could afford to do that. Now, when I am down to 50 percent of parity, it is impossible for me to have that type of an operation. So we have corn, soybeans, and wheat, and we may get a little grass in between time. In doing this, we are required to use a greater amount of fertilizer. We have not had the rotation, to allow us to maybe not put as many chemicals on our corn, because I can remember several years ago we were taught we ought to grow continuous corn. When you raise continuous corn, you are worried about corn rootworm, and you have to use a chemical to control that. Where, if you have the income, you can have a rotation. And with a rotation, it is not near as critical that you use that chemical to control that rootworm. So I think, we have to get the economy back in agriculture. When we do this, I think the farmers are willing and ready to address this issue and to adopt the practices that are needed.

I agree that we need more research in this area. We are aware now that some of those chemicals that we have been using over the years have not degraded as we thought they would. So some of those chemicals are being banned now. I think the farmers are willing to accept these restrictions of their usages. They do not want to use them if they are going to get into the ground water or they are going to stay in the soil and be carried on in the years ahead.

So the two issues that I want to point out are, the 1990 farm bill has to improve the income of our family farmers so they can address these issues, and we need more money in the research area to point out just what we need to do and how we need to go about it to address this important issue.

Thank you.

Mr. JONTZ. Thank you. Mr. Erb.

STATEMENT OF LARRY F. ERB, PRESIDENT, INDIANA NATIONAL FARMERS ORGANIZATION

Mr. ERB. Chairman Brown, Congressman Jontz, our own Congressman, and Congressman Grandy—I feel that you are my second home-State Congressman, because I spend 5 weeks a year at the National Farmers Organization Headquarters.

I am Larry Erb, president of Indiana National Farmers Organization, and I farm 550 acres at Rt. 2, Box 84–A, Remington, Indiana. That is the valley, flat ground. We have very little CRP in Jasper County. I do not think there are over 400 or 500 acres.

I am going to go through a little resume of how we arrived at a monoculture agriculture. In searching for ways to explain how we arrived at this point and work toward flexibility in sustainable agriculture, I came across an editorial in "Farm Journal" that illustrated the problem very well. They were enthralled by low support rates and said that, "We sure showed those South Americans." They went on to lament the fact that U.S. farmers were not raising enough soybeans and other crops such as oats. They could not see that the cause of farmers growing corn in corn areas and wheat in wheat areas is the fact that support prices of these crops, although at a very low level, are still higher than those of oats and soybeans relatively. It does not take a rocket scientist to figure out that $2.75 corn is better than $4.60 soybeans.

With low support rates, the free market people are hard put trying to entice us to plant beans, because all farmers know that the buyer knows we have only one option as our loan runs out on soybeans. Our cost of production in a normal year approaches $7.50 per bushel, and on a drought year like 1988, it goes over $10. Last summer, it looked like beans might approach $10, but then when it came time for the grain companies to deliver their beans, they sold to Ferruzi, and the Board of Trade called off all bets and issued an emergency order collapsing the prices and terrorizing farmers with their usual offer: "Sell it or smell it!"

There was no option. Either accept $6.50 per bushel, $3.50 under cost of production for 1988 beans, or deliver to CCC for $4.60. The low support allows the buyer to buy at much below cost of production because of concentration within the industry.

For the first time in many years, a bill has been introduced which might allow diversified family farmers to transfer some of the deficiency payments for corn or wheat to the production of sustainable crops and retain the base acreage. H.R. 3552 would be a breath of fresh air in this regard. According to statistics, in the last 25 years we have lost 72 percent of our family farm beef feedlots and 68 percent of our family farm hog producers. A large part of this has been because the factory feedlot can purchase corn $2 a bushel below the total cost of producing corn for the family farm diversified producer that raises his own feed. This bill would help farmers with this cost of production of their small grains and hay.

Since, in the past, payments have been made to farmers to no-till, ridge till, and use other methods to increase use of chemicals on farms, perhaps we could include payments to, one, provide for Government cost sharing, 50 to 75 percent, for the establishment of rotation practices within an approved farm plan; and/or, two, annual incentive payments based on a percentage of the loss in income resulting from the increased production costs and reduced yields during the conversion period to the sustainable system.

These programs would lead to less chemical usage in line with the recent U.S. Geological Survey test showing heavy concentration of farm chemicals in the streams in the Midwest.

I would like to tell you of my own program for decreased usage of chemicals. I was one of the first farmers in Jasper County to use an insecticide on my farm and one of the first to quit using an insecticide. I have not used any for over 20 years now, and I have no problems with insects that would warrant the expense. A few years ago, Purdue came out with a release that said that 90 percent of the insecticide used in Indiana was a waste. I saw it at one time, and I am sure that the chemical industry landed upon it, and I have not seen anything or any recommendation to stop using this insecticide. Only 10 percent of what was used was needed, according to this story.

I have found that a plant that has a balanced program, and is not under stress, will have a higher sugar content and thereby is not conducive to attacks by insects. This is a fact that has been known for some time, but is not taught by farm suppliers or Extension Service people.

I have not spread any fertilizers for 30 years. All fertilizer is applied in bands next to the plants, thereby reducing the amount needed to raise good crops. The Extension Service, 2 years ago, started to reduce their recommendations for fertilizer, but it was attacked by the fertilizer industry for doing so and thus backed off from these recommendations I am sure the wrath of God Almighty had been lowered upon their heads. I use only liquid nitrogen, that does not leach into the water and air as easily as anhydrous ammonia. It costs more, but as with everything, you get what you pay for.

When I apply herbicides, I also apply a quality surfactant, which allows me to use 25 to 50 percent less material, thereby reducing pollution of run-off water. I get as good as, or better, weed control and save money as well. This is a practice that is well known to the Extension Service and farm suppliers, but the reduced use of chemicals hurts the industry's bottom line, even if it does improve the environment.

I am sure that other practices could be used, as I am now experimenting with an inoculant that has allowed me to grow 140 bushels of corn with only 50 pounds of nitrogen. I still make more profit with 150 pounds of nitrogen and 180 bushels of corn, but in the long run there is probably more pollution.

Another point on this, I do not have down here, the large farmer has problems getting his crop controlled in the time allotted to plant. There was an ad that "Case International" had out a few years ago showing that, if you bought one of their four-wheel drive tractors, you would go out and disk in mud. They showed them disking through water, and get in 2 or 3 days earlier, for the big farmer. And when you do this, you compact the soil. When you compact the soil, you cause grass problems. Grass will not grow unless you have compaction in the ground. And they know this, and yet nobody teaches the farmer to stay off and not compact the soil. And each one of the different weeds, there is a reason, on balance, in the soil or in the type of farming that leads to this weed being a problem. And this is not experimented on, or it is not taught. And this is something, I think, that we need a lot of research on, and the ag chemical companies will not pay for research like this. I assure you.

I would like to recommend more research on these types of programs. As of now, most research at the land-grant colleges is paid for by the chemical companies and the colleges feel threatened to lose this research money if they stray from the heavy chemical line.

I want to thank you for this opportunity to express my ideas and opinion.

[The prepared statement of Mr. Erb appears at the conclusion of the hearing.]

Mr. JONTZ. Thank you. Phil.

STATEMENT OF PHILLIP G. ANDERSON, EXECUTIVE DIRECTOR, INDIANA CORN GROWERS ASSOCIATION

Mr. ANDERSON. Good morning. My name is Phil Anderson. I serve as the executive director for the Indiana Corn Growers Association, an affiliate of the National Corn Growers Association. We represent corn farmers in Indiana who stand committed to striking a balance between profitability and conservation of our natural resources. I am here today because many of our directors and officers are attending our national convention out west. I appreciate this opportunity to appear before the panel and present the corn growers' views on this critical issue.

The preservation of the environment has risen to the top of our Nation's agenda. We, as farmers, have always considered ourselves stewards of the environment because our survival depended upon it. We recognize that the soil, water, and air are our most valuable resources and that our prudent use will make them available for future farming generations.

The corn growers have a concern that terms being used to describe sustainable agriculture have as many different meanings as there are people offering definitions. Experience tells us that grasping quick-fix concepts can do more harm than good over the long run. Developing knowledge is the key step in tempering our excitement for something so-called new and exciting.

Our organization's position on low-input agriculture, which we like to term "most economical return," encompasses four components. We believe that any practices that might be outlined in legislation must meet the following criteria: One, must be environmentally sound; two, be economically sound; three, provide flexibility for varied operation; and four, provide a period for education and adoption. Let me quickly expand on each of these areas.

Too many people in our country have been quick to assume that our current production system is neither low input nor sustainable. Many groups have persuaded Americans that new concepts being pitched around by some scientists are environmentally sound. However, we need good, raw scientific data to compare different systems to make sure. These need to be done as field trials, as some of our members are now doing. These trials are where Government can help. Congressman Jontz's bill provides some economic protection while farmers test ways to improve our current systems. Government may also be of assistance in providing research grants for regional field trials, using farmers' operations.

I want to deviate quickly and reiterate a point that Eldon Ortman made on the first panel. He asked the question: "Will the antibiotechnology group that works in Washington and elsewhere, will they prevent agriculturalists from utilizing new technologies that are developed that may move us in this direction that we seek with sustainable agriculture in using different systems?" We sometimes find that people are saying, no, you cannot do those. I think we need to be really asking our questions: "How much can we move forward; how can we move back; and what are the forces at play in that argument?"

Today's agriculture is sustainable, and we are always seeking to lower inputs. Farmers still do and will always produce for the marketplace. To survive the rigors of the global marketplace, we must make sound economic decisions. Show me a farmer who survived the 1980's without examining many possible ways to reduce the cost and number of inputs. Many an idea in the world had merit, but until it passed the economic litmus test, it had difficulty in reaching the masses. The merits of these newly packaged concepts must help the farmer remain competitive or, hopefully, improve his competitive position.

The evolution of conservation tillage as an accepted production system can serve as a good example of how to embrace new concepts. If you were to poll farmers throughout Indiana as to how they use conservation tillage in their operations, you would get many different responses from minimum tillage, to ridge till, to no-till, and so forth. Flexibility is the key. Producers have varying financial resources, management systems, management expertise, geography, weed problems, and pests. Specific practices cannot be established to deal with all the variations that exist in Indiana, let alone in the Nation.

Partnerships between chemical fertilizer dealers and producers to develop prescription programs will help address variations within farmers' operations. While this system is gaining some acceptance, we need to move forward at a much quicker pace.

Finally, producers are willing to change. Once again, I cite the advent of conservation tillage. Plots, trials, workshops, seminars, and farm publication articles were just some of the elements that led to the acceptance and innovation that are so much a part of today's conservation tillage systems. Farmers need time to research new concepts and find ways to make them work, not for someone else, but for the operation back home.

In conclusion, stewardship of our resources is not only a responsibility we accept, but a source of pride for us in agriculture. Too many times people act as though we do not eat the food we produce or drink the water we use. Today there are many new-found converts to environmental concerns. Maybe farmers have not gotten overly excited because we feel that we have always been true environmentalists.

Thank you for your time this morning.

[The prepared statement of Mr. Anderson appears at the conclusion of the hearing.]

Mr. JONTZ. Thank you. Tom.

STATEMENT OF THOMAS MILLIGAN, DIRECTOR, INDIANA SOYBEAN GROWERS ASSOCIATION

Mr. MILLIGAN. Mr. Chairman, members of the committee, thank you very much for allowing me this opportunity to come and share some thoughts with you this morning. I have prepared written testimony, but will deviate somewhat from that this morning in my oral presentation.

I am a farmer in Dana, Indiana. My wife and my father and I farm 1,050 acres in a corn/soybean rotation. We are cutting our herbicide rates through a banding program where we basically cut our herbicide rates in half. Our rotation has allowed us to omit the use of insecticides in our program. We have cut our fertilizer rates. We are targeting our fertility program to the areas of the field that need it. We have cut our tillage program by using a ridge-till system. This has also cut our labor costs, which has significantly reduced our dependence upon external inputs.

Now why have I done that? As we came into the late 1970's and early 1980's, I saw the commodity prices dropping. I decided if I was going to sustain myself as a farmer, I was going to have to get my costs in line with what the market was offering me for my commodities. So I, ever since then, have strived to lower my costs of production and be a more economically sound farmer. Lately, I found out that most of the practices that I have adopted have made me a more ecologically sound farmer. But I have learned that after the fact, and it was not the primary reason that I reduced my use of external inputs.

I look at my neighbors, and I do not farm just like all of my neighbors do, and I wonder, "Why don't they do this?" Well, I have increased the risk on my farm. If it rained for an extended period of time, and I depend on mechanical cultivation for my weed control program, I have increased my risk. I am reducing my nitrogen rates by side-dressing. If it rains before I can side-dress and the corn starts growing, I've increased my risks. I have been able to manage these uncertainties very successfully, but it takes careful planning and a willingness to take risks.

When I look at other farmers, I think there is the lack of experience in doing this. The lack of knowledge of how to change is one of the barriers to reducing our inputs.

Another factor working against farmers reducing risks is that they want to protect their corn base. If they have a high corn base, they do not want to risk losing it through rotation of other crops. I think it is very important, as we look at the 1990 farm bill, that we protect the bases of farmers who want to rotate. We should also provide equitable income support for farmers that want to use alternative production systems.

I am very much in favor of the concept of genuine planting flexibility for farmers. Farmers need to have the ability to plant for the market; farmers need to have the planting flexibility to plant for agronomic reasons; and farmers need to have the planting freedom to address environmental concerns—and do this without the Government making their planting decisions through our current Farm Program.

Another item is research and education. I wish that we could have one neat plan that we could just throw out nationwide and say, well, this is the answer to farming in a more environmentally sound manner. But I just do not believe that is the case. I do not think that we can have one system for our whole State that will make us more environmentally sound. I cannot even have one specific practice that will make my entire farm more environmentally sound. I think we have to look at site-specific farming needs to develop site-specific practices which are environmentally sound. And to do this we need a system of integrated crop management practices that are tailored for each individual operation, taking into consideration the farmers' soil types and his topography. It could also include a farmer's management ability, and his financial ability.

Now to do all this is going to take a tremendous educational effort on the part of the Extension Service and others. I am concerned, with Extension budgets being flat at the Federal level, about how we are going to accomplish the educational process needed to lead us toward more environmentally sound practices in the 1990's and into the 21st century.

There is a growing awareness among farmers about the environmental impacts of their farming practices. There is a tremendous growing awareness from the media and the environmentalists. Farmers realize that they are going to have to change their practices; change is on the horizon. They are concerned about the environmental regulations that are based on fear and false perceptions that will affect their ability to farm competitively.

I would like to thank you again for this opportunity to come before you. The actions that this Congress takes in the 1990 farm bill will affect agriculture and the conservation practices that will lead us into the 21st century. Hopefully the 1990 farm bill will enhance producers' ability to farm profitably and farm environmentally sound.

Thank you very much.

[The prepared statement of Mr. Milligan appears at the conclusion of the hearing.]

Mr. JONTZ. Let me thank all of the witnesses for their statements. This is a very impressive panel, and I am really delighted that all of you could be here to share your thoughts. Let me ask the chairman, first, if he would like to begin the questioning.

Mr. BROWN. Mr. Erb, you made some remarks about the input, the chemical companies on the research programs at land-grant colleges, which seem to me might not be all that popular with either the chemical companies or the colleges. You indicated that the chemical companies are helping to finance some of that research and that that has an influence on the direction that the research takes. Now you got a lot of friends in both the chemical companies and the universities, I imagine. Is that something they would agree with?

Mr. ERB. I would not know if they agree with it or not, but I have contracts at home that are signed by chemical companies with universities. I got hold of some copies, so when I looked at the wording of these contracts, these are financed—this research is financed for the chemical companies, and then the research is to be released for the chemical companies, and they have been told what is released, what information comes out, and this is the type—what is going on. If I was a research man and was getting this money for my research for my company, I most certainly would not attack that company if I expected more money back.

Mr. BROWN. I do not want to exaggerate the effects of this sort of thing, but to the degree that the chemical companies might be controlling the direction of agricultural research, that is a fairly serious kind of a situation. I am not attacking the chemical companies.

As they say, some of the chemical people are my best friends, and we deal with them a lot in Washington. They are, in general, a responsible part of the agricultural economy. Now I tend to criticize them quite frequently, because I think in doing what any company does naturally, seeking to maximize their profits, they may not be looking at the long-range benefits to American society and the farmers. But I hope they would see the need to redirect their own research to reflect some of the changes that have taken place. If that is not happening, if they are making an effort to continue to justify the use of chemicals when other alternatives might be better, for example, they are not doing a service to the American people or the American farmer. So your testimony on this struck me rather strongly. Do you feel that your views on this would be supported by other members of the panel, for example, or other people here in Indiana?

Mr. ERB. I am sure they would be by the people in Indiana. I do not know about other members of the panel. I can talk with them. I know that is definitely my opinion. I have seen no research on this, like use of surfactants which cut use of chemicals. Nobody publicizes this. I have known this for 20 years, and nobody talks about it. I have actually know farm suppliers to use a surfactant and use less chemical and charge the farmer the full rate on the chemical. Now I have known this. I cannot prove it in court, but I have known this to happen. And they know it, but they do not tell the farmer to cut back on the chemical and use a surfactant, because that hurts their profits.

Mr. BROWN. Any other members of the panel like to comment on this subject? Is Mr. Erb stretching things a little bit or is there an element of——

Mr. WRIGHT. Mr. Chairman, I have some concerns, as Mr. Erb has. They may not be quite as strong as Mr. Erb's. One of my other concerns as far as the research area is the fact that we are seeing more research done by the private companies themselves, instead of in our land grant colleges and our public research. We are getting into this genetic engineering, and so on, and it is my observation that when these private companies do this themselves, they are going to use that themselves. For example, I do not know exactly which one it is—and I think maybe, Mr. Chairman, you do—but one of the major processors has developed a hybrid tomato seed that produces considerably more than what is available. Yet they kept that within their control, and it just goes to their growers to sell to their plants. This puts the others growers at a great disadvantage. So this is one of my concerns in the research area. I think there needs to be more funds for public research, so that we can make this knowledge available to everyone.

Mr. BROWN. Well, the information available to me indicates that you are correct in this matter. The private industry firms—the chemicals, the pharmaceutical companies and others—today are now financing probably more agricultural research than the Government is. That is a new phenomenon in this country. They are also buying up many of the formerly independent seed companies, and they are gaining more control over the seed business. There is nothing illegal in what they are doing here. The question is, is it good or bad for the American people and the American farmer?

And that is the subject that we need to explore. We do not like to interfere with these things, unless it is clear that they are misusing the power that they are gaining in this way to adversely affect the interests of the farmer.

Mr. WRIGHT. Mr. Chairman, I would just like to add one more thing. Our agriculture that we have today has developed because of the public research that we have had. This made the research available to the general public and to the family farmers. This is why our agriculture is so much better than the agriculture in other countries of the world, because we have this knowledge and it is made available to our producers. I think it is real important that we continue to make this very important knowledge available to as many people as we can.

Mr. BROWN. Let me urge each of you, to the degree that you share this feeling, to communicate with the Members of Congress, and particularly the Appropriations Committee, because that is where the crux of the matter is going to end up here. I have no further questions, Mr. Jontz.

Mr. JONTZ. Mr. Grandy.

Mr. GRANDY. Thank you, Mr. Jontz. Let me just say, particularly to you, Mr. Erb, seeing how Ames is your second home, you are no doubt aware that Ames is also home of the Leopoles in sustainable agriculture at Iowa State University.

Mr. ERB. Yes. Yes.

Mr. GRANDY. That facility is funded by taxes that are imposed on chemical retailers in Iowa due to the 1987 Ground Water Act, so there has been at least preemptive effort within the State quarters, to perhaps not actively come back to this conspiracy, to reroute research in Iowa, at least to divert dollars toward some of the purposes that you are talking about. But I do not want to talk about research with you fellows, because you fellows are producers, and I want to talk about the bottom line.

Something that you said in your testimony, again Mr. Erb, is something that I hear whenever I raise the question of flexibility as it relates to the new administration proposal—or for that matter, any flexibility proposal we have that is currently in front of us—and that is, basically to fellows that have grown corn or wheat predominantly over a history of base-building farm programs, flexibility notwithstanding, they will continue to grow more corn and more wheat because that is what they know. The legislative advantages there, and even though you might say, well, this gives me an opportunity to grow more beans or perhaps experiment with canola, or if I even want to put a conserving crop on, put some clover or alfalfa, which under at least the administration proposals you could not crop—but that is the point. Is flexibility in and of itself enough of an incentive to change the kind of monocultural activities that we have under the present program, or do you need some kind of an income incentive?

Let me just say to you, Mr. Milligan, I have had your representatives—the ASA guys—come to my meetings, and of course they are pushing for the graduated equity loan, which in a sense is an income protection program for soybeans. It is a good idea. It helps you recapture market share. It locks in a price, assuming your figures are right, of about $6.22 a bushel. It could cost anywhere, de-pending on whose numbers you look at, $50 million a year or $250 million a year. And that is fine, but we have to understand that under the present confines of the budget, that will not be added to the existing commodity budget, that will be inserted within the commodity budget. And we are seeing the gentleman from the Corn Growers who probably knows, as we all do, if that income protection is put in, his target goes down. Now that is what I am talking about here. I am a believer in flexibility. I am a believer in income protection. But I would like to hear you fellows say how we can make these two initiatives in our new farm legislative consistent with each other, so that you are not just going to continue doing what you are doing.

Mr. Erb, would you like to start?

Mr. ERB. I believe we have gone down this road of monoculture for so long that we just cannot say, well, here, go back to diversified family farming without some way of enticing the farmer to go back to this. Our whole program enticed us into corn. We have, like I said, $2.75 for corn and $4.60 for beans. Hey, you can grow four times as much corn as beans and just figure it out. There is a lot more money in corn than there is in beans. This is what I have said. We have paid farmers $10 an acre to go toward renting a no-till drill to go no-till on soybeans where you double the use of chemicals. Now surely we can take that money now and turn it around and pay the farmer, like I said, to establish the rotation program to pay to plant the clover. I do not know whether you will ever get back to cattle on this ground, but a lot of the CRP ground that runs into problems in some areas was cattle ground years ago and was plowed up because of farm programs and is back in the CRP, and it should be left in the raising cattle or something like this.

And then the other one was, when we grow, like the inoculant that I was experimenting with, I can grow corn with only 50 pounds of nitrogen, adding this inoculant, but I do not get as much yield as before. If we could make up this yield-loss difference to entice us into using these methods, possibly we could get the farmer to come back. But it is going to take a big change.

Mr. GRANDY. But having said that, do you all agree that basically you need some kind of income protection or financial incentive over and above flexibility to do what we want you to do?

Mr. ERB. Yes. Yes, sir.

Mr. GRANDY. Now knowing that, and knowing what Mr. Jontz's bill does, I see a similarity between what he is proposing and what is in the GEL bill, which is basically a way to add a base step which otherwise was not there. In your case it was just soybeans; in his case it is conserving crops. Great. We add that base to the existing commodity programs, assuming dollars are constant, then we have to drop the targets. Is that acceptable to you? I cannot find a Member of Congress on the Ag Committee that is going to get out in front on a reduction of target prices. I guarantee you, I am not. I do not have to be this nice. This is not my history.

Mr. JONTZ. Will the gentleman yield for one-half minute?

Mr. GRANDY. I would be pleased to yield to Mr. Jontz, the author of the sustainable agriculture bill.

Mr. Jontz. I want to make sure I understand your question. If I understand my proposal correctly, the deficiency payment would be made on the resource-conserving crop which would be planted in place of corn, for which a deficiency payment would have been made. Now, I want to get to Mr. Pearson's concerns, because that is a legitimate concern. What do you do to the people that are haying now? How does that affect their business?

But in terms of the cost of the program, my proposal would not be making deficiency payments on any acres for which deficiency payments were not being made now, except for adding base for the stewardship farmers. Now that is a legitimate loan.

Mr. Grandy. Well, but that——

Mr. Jontz. But in terms of the—if you get away from the question of adding base acres for the stewardship farmer who has lost them, I would not be paying deficiency payments in any acres that would not be getting them now. In fact, if you want to put beans in, in a rotation, under my proposal you could do that. You would not get deficiency payments on beans, because beans are not counted as a resource-conserving crop under my legislation. And you would not get them on wheat either because we allow wheat only as inter-plantings, with other small grains as a resource-conserving crop—not for human consumption.

Mr. Grandy. But as you know, if you have a corn base——

Mr. Jontz. Yes.

Mr. Grandy. And you plant your resource-conserving crop on that corn base, under your bill you would allow that to be added to the base, would you not?

Mr. Jontz. No. Just on your base acres.

Mr. Grandy. All right. So you pay the corn deficiency on that?

Mr. Jontz. Yes. It would be paid as if you were planting corn that year.

Mr. Grandy. All right. But again, the appeal of your bill to me and to the producers that I have talked about is the ability to buy into the program, that they never could have accessed before. In other words, they can add base, because they have been good stewards. That is a provision of your bill, is it not?

Mr. Jontz. That is a provision.

Mr. Grandy. And that is good, but that adds costs. And that is all that I am saying. I am looking for something that supports flexibility and some form of income protection, and I know the budget realities are such that it is going to be hard to add costs to the bill and get it across the floor of the House. Those are the realities that we all deal with. You folks are producers. Can you tell us how we—yes, please.

Mr. Erb. I have two suggestions in this line. The first suggestion is to raise the loan rate, which will cut the possible deficiency payment and the money sent to the Government. This loan rate is always returned back to the Government when the farmer does sell the grain. Either the farmer sells the grain and pays the loan off or the government gets the grain and they sell the grain eventually and pays the loan off. The money comes back, so that is not a direct expense. I know how it is in the budget. It shows in the budget as a direct expense. But this would cut the amount of money the Government has to spend in the deficit.

The second thing is, I have read where 22 percent of the farm price-support payment goes to the grain trade for storage, in and out charges, handling charges and stuff like this. This storage is 65 cents a bushel to these grain traders and only 26½ cents to the farmers. How about bringing them back down to the 26½ cents to the farmers? They are supposed to be big and efficient. Surely they can keep the funds.

Mr. GRANDY. I would support a uniform rate between commercial and on-farm storage facilities. I am not sure that would make up the difference, but then does anybody else have any thoughts on how we might be able to wed these two laudable concepts?

Mr. MILLIGAN. Coming from the soybean side of it, I guess I do not apologize for bringing forth a program that might have some increased costs to it. As we have seen the effects of the 1985 farm bill, in a period when the world markets for soybeans and soy products was increasing, we have seen the U.S. share of that market dropping. Sometimes when I do things on my farm and it does not pay off, it costs me something in order to rectify the situation. I think we need to keep our soybean industry in this country and export soybeans, instead of exporting our soybean industry. Every time that we reduce an acre of soybeans in this country, the South Americans increase their plantings by an acre and a third. So I think if we want to keep farmers in this country, we need to look at a program that is equitable for soybeans.

A couple of points of clarification. Our program is not just strictly a $6.22 program for all bushels of soybeans. That loan rate is dependent upon the target prices of corn and cotton.

Mr. GRANDY. Right.

Mr. MILLIGAN. So as they change, so will the loan rate for soybeans. And also, not all bushels of soybeans are eligible for this program. It is a graduated equity loan that would be dependent upon stock levels. When stocks are the highest is when producers need the most income protection, and the time at which a larger percentage of beans would be eligible for this program. But it is not a $6.22 program for all beans produced. All we are asking for is equity.

Mr. GRANDY. I can appreciate that. And obviously where I come from, corn and beans is a very natural rotation. But going back to what Mr. Jontz was talking about earlier in terms of developing systems and systems research, maybe one of the things that our committee and our Congress ought to think about is funding system plants. Up here it means corn and soybeans. And to put the GEL Program into the commodity program does mean—because corn gets a disproportionately high commodity, the hunk of the commodity program because of the price—well, perhaps you should answer, Mr. Anderson. Could you support a GEL Program, knowing that it enhances rotation, that it reduces the cost to you of corn-on-corn, but the price for that may be 1 penny or 2 off to your target?

Mr. ANDERSON. I guess the safest way to answer that right is to say that we—I represent here the Indiana corn growers, and predominantly here, as in Iowa, our farmers are corn and bean people.

Mr. GRANDY. Right.

Mr. **Anderson**. Sometimes the associations get a little caught up in doing what is right for the association. But if we look at doing right for the farmer, in Indiana, if he could make as much money planting more beans than corn, so be it. If he could make more money planting corn than beans, he is going to go that way. I sit around a table like this and realize that Tom Mulligan represents soybeans and is a very active member in our association as well. So I guess I do not have a problem with it, because I think the farmer here looks at corn and beans and piles them altogether and says, look at my bottom line at the end of the year—much less concerned about what this 1 penny or 2 might do on one location if there is going to be an opportunity to make that up somewhere else. I think that is the case. And if you will, that is the beauty of looking at things as have been talked about as a systems approach.

Mr. **Grandy**. I bring that up, because we have already had a little trial balloon on flexibility with soybean plantings in the drought bill. That did not increase the acres that you folks had hoped for; nor did it reduce the amount of acres that were expanded in South America. So it has not done what you want it to do. I bring this out because you folks are on the front lines of any kind of system approach on flexibility. In the whole framework of any kind of new flexible approach, whether it is normal crop acres or whatever you want to call it, it is going to depend on the fragility of income protection across the board.

Mr. **Anderson**. Congressman, let me———

Mr. **Grandy**. Yes.

Mr. **Anderson**. If I could add one thing here. I think we talked a little bit about education. I do think that is going to be the critical linkage here. I think the reason you did not see a lot of flexibility, or flexibility solve a lot of the problems that it sounded like it might was, it happened in a 1-year period. There are a lot of other factors that entered in, what the market is doing—it has a lot to do with that. I think more so than that, we have to look at a system like we saw with conservation tillage. If you looked at it at the beginning, a lot of people are saying: "I cannot afford to do that." Today they are finding—they are raising a whole host of new technologies. Now you have farmers who years ago would have been antagonists to the whole concept, but are now doing some very innovative things on their own operation. I think we have to look at balancing the flexibility of the income, but we have to combine that with a huge educational thing. It kind of goes back to funding Extension. I listen to Ed Heckman up here talk about, as an Extension Agent, what it might cost him to do it; yet when I talk to other extension agents, they say, "Well, I would like to be able to do this and this but, man, they are cutting my staff right and left." Somehow, if we talk about sustainment of anything, we may need to sustain our educational system within the agricultural framework to try to do that, or reorganize it or restructure it, or something that meets those needs, because, yes, the needs have changed since the way we structured it from the very beginning.

Mr. **Brown**. Would the gentleman yield to me? I think this is a very important point that is being made here. We cannot, in doing farm legislation, and particularly doing farm research and extension-kind of things, look at just 1 year at a time. We have to decide what is the right direction to go and we have to lay out a 5-year program, or longer, in order to see the effects. Same thing is true with the flexibility things here. We may find that in the very short term, because of a lack of participation or education, or something, it does not work out the way we thought it was going to work out. But if it is right, it will work out over a longer period of time. That is what we have to look at. That is one reason we do the farm bill on a 5-year basis. Frankly, the first year or two after we passed the 1985 farm bill, I thought it was a disaster. But in the long-shot, it turned out to have been a pretty good bill from everything that I have been able to find out. But it is a darn good thing we wrote it as a 5-year bill, or if we had to write one 2 years later, it would have been a different bill.

Mr. GRANDY. Well, just to finish up, the chairman makes a point that I want to elaborate on. One of the great foes of long-term planning in farm legislation is the year-by-year Gramm-Rudman requirements that are placed on us. This year, the figure that is being batted around is $1.5 billion. We do not know where that is going to come from. We have taken a disproportionate cut every year since Gramm-Rudman began, and that is the single—and this is a Republican telling you that he did not ever support that Republican initiative, because it conspires against that kind of a rise in planning that we need. Ideally, we should be front-loading this new farm bill to allow a lot more flexibility with some income protection. But if there is a way to find that money in the budget without going into somebody's ox and goring it deeply, I have not found it. And really the thing that stands in the way of all of this is the annual budget game of Gramm-Rudman that requires the ongoing extensions from the Ag programs.

Mr. ERB. Does not Gramm-Rudman leave out the middle term extending, the payments, social security—all these other things are left out, and there is just a very minor portion——

Mr. GRANDY. Six percent. Six percent of the budget is——

Mr. ERB. And we are the major portion of that. So it really is an attack on the Farm Program, Gramm-Rudman.

Mr. GRANDY. Well, the Farm Program was never exempted.

Mr. ERB. Right.

Mr. GRANDY. So, yes, that is always subject to the budget axe. That really probably does more harm to some of the ideas that we are trying to get established here and whatever might be or might not be in the 1985 farm bill.

Mr. JONTZ. I have a couple of questions. I took part of Mr. Grandy's time, so I will try to make this abbreviated. Larry, you mentioned the loss of family farm producers with regard to livestock.

Mr. ERB. Yes.

Mr. JONTZ. And I think I agree with you in terms of looking at the history of it and the reasons for it. My question is this: Do you think if there were more grass produced, if there were more legumes produced, as a result of a proposal like mine, it would provide some financial incentive to do so? That if we did that over a period of time, that that would cause some shifts to rebalancing within the livestock industry, or is there so much else changed at this point that we would never really see people going back?

Mr. ERB. Well, in the areas where we have this CRP-type ground that should be in livestock, I think you would see this come back. I do not think in Jasper County that we would see this so much, but in the areas where the ground is conducive to livestock. Let me put it that way. Now I think you will see this. I know that we have some members who drove some feeder calves in Indiana, and this would be a great service to them: To be allowed to get payments on their grass which would cut their costs of their grass and their hay. And it would help dairy farmers, too. And that would help diversify. But I do not know what it would take to get a 2,500 grain farmer to plant some grass. It would take more than this.

Mr. JONTZ. Does anybody else on the panel want to respond to that question?

Mr. ANDERSON. Congressman, the only thing that I can see that would be a hinderance is that the infrastructure within the livestock industry has changed so much. If you look at—you may be able to bring some grass back or put some cattle on feed, but you have to get them to a packer, and there are hardly any packers left out here. The infrastructure has changed so much, and the concentration has grown to a point in which, if you are East to the Mississippi, it is pretty tough. Even the packers that we have left, you hear news reports coming out that somebody is up for sale, and that they are closing, and they are closing plants in Chicago and elsewhere. So, it is still going to be tough on a guy to just bring back grass all of a sudden now and bring back the livestock industry now. Do not think—that does not mean that we should not give it a try, but I think we have to be aware of the risks that that kind of an adventure would take.

Mr. JONTZ. There are structural problems within the industry——

Mr. ANDERSON. No question.

Mr. JONTZ. That would certainly be barriers. Let me ask this second question. Harry, I think you, in expressing your concerns about H.R. 3552, touched in sort of a general way on what the real issue is, and that is the difference between the administration proposal and mine. The administration, in their flexibility proposal, wants to make deficiency payments on soybeans and not on resource-conserving crops, whereas my proposal would make the deficiency payments on the resource-conservative crop. In fact, I require the resource-conservative crop. That is how you get into the rotation and not do so on the beans. The administration proposal and mine really are directed a little differently, and they do not really attempt to accomplish exactly the same thing, although they are both flexibility proposals. But I guess what I would like to hear the panel discuss—how important is it, what is the downside of deficiency payments on the resource-conservative crops? We have a provision in the bill which says that the Secretary can limit the amount of hay that can be harvested from acres in a rotation, under my bill, if he determines that severely depressed hay prices have resulted. Obviously we do want to be sensitive to the people that would be affected by increased hay production or any other conserving crops that might be planted as a result of my legislation. But do you think that that is a price we may have to pay in order to make rotation attractive enough? I guess I am kind of interested in response by you and other members of the panel, what you see the tradeoffs that are involved with paying deficiency payments on our resource-conservative crops.

Mr. PEARSON. Congressman, I think there are two things when you start putting the payment on a resource-conservative crop. I think, No. 1, we have almost set the parameters. The total dollars are not going to increase. If they are not, then that means if you shift that to legumes or whatever, then that is going to be coming off of some other crop.

Mr. JONTZ. Well, sir, it would only be coming off of another crop at the choice of the producer. Again, I am talking about allowing people to add base who have been stewardship farmers. I do not know how to predict who out there would fit in that category, but just taking the existing base that we have, it would be your choice as a producer to enter a rotation, and you would be getting deficiency payment on acres as if you had planted corn, that you had decided yourself to put into a resource-conserving crop. So you really would not be taking money from somewhere else to pay for these deficiency payments.

Mr. PEARSON. Whether the dollar is going to follow the crop or follow the acres, then maybe there would not be that much difference then. But in one scenario, the dollar will follow the crop, and the other will follow the acre. And I think what you are saying is that the dollar will follow the acres and not necessarily the crop.

Mr. JONTZ. That is right.

Mr. PEARSON. I think the other concern it raised though was—not in this part of the country, but in other parts of the country—there are people who produce that as a case crop. So if you put those dollars with a conserving crop here, that is going to put your competition with them. One concern we have is, if you go back and talk about whether it is deficiency payments or support payments, whatever, it may cost more for nonprogram participants, program crops and nonprogram crops. And as you go look at that, then, I think you have to keep in mind that there are many people out there today that are not program participants that produce a lot of other crops. I guess it would be our feeling that that payment should follow the crop that comes off of those base acreage, for that crop is still on that base acreage, but you still, you put a conserving crop in there or put an oil seed crop of some type—not necessarily soybeans—but restrict another space for the crops, so anything other than an oil seed crop put on those base acres would not receive a payment for them.

Mr. GRANDY. Would you yield for 1 minute?

Mr. JONTZ. Yes.

Mr. GRANDY. I want to go back to the differences between your bill and the administration proposal.

Mr. JONTZ. Yes.

Mr. GRANDY. I thought I understood both before this hearing. Mr. Pearson, the administration proposal, in terms of conserving crops, allows you to grow them, but you cannot harvest them. If, for example, you wanted to grow hay, however, on your set-aside acres, you could do that under the administration proposal, but you would prorate your deficiency down for the acres that you bailed on your set-aside acres. Now as I understand the administration proposal, you can grow beans on 100 percent of your corn base and get your entire deficiency payment. But I do not think there is any addition of bean base or payment in the administration bill. That is, I think, your thrust. Is it not, Mr. Milligan, to in a sense add a payment for beans under the new farm bill?

Mr. MILLIGAN. It is a voluntary program farmers could enroll in—and it would not have bases—all farmers would be eligible, but it would not have quotas and bases. Also the equity part of it would take into consideration the set-aside factor for the Corn Program and the Cotton Program.

Mr. GRANDY. So, under the administration proposal, there is no way, really, to add base. You go in probably with what you have right now. Under your proposal, you could, because you would be able to allow that resource-conserving crop to your additional base. Is that correct?

Mr. JONTZ. Well,

Mr. GRANDY. If you have been that good steward that we have talked about.

Mr. JONTZ. Yes. My legislation attempts to address the problem of the, again, the so-called stewardship farmer who has lost base. I am not talking about people adding base from this point on, except for those who have lost it as a result of their stewardship practices. I think that has to be defined. The legislation is not very definitive about how you do that, and I think that will require some very careful thought to be fair to all parties.

Mr. GRANDY. Well, again, I think that the concept of making at least a crack in the door to those good stewards that have been out there anyway, and always seem to be left short-handed whenever we write a new program, is a good one. I guess the one downside that we both know is the budget: How much it costs and what we have to do with the rest of the existing program to accommodate these costs.

Mr. JONTZ. We are going to have a time problem shortly if we do not dismiss this panel. This has certainly given us a lot to think about, and I am sorry we did not have time to get some responses from others of you on that question. But I would be interested in your response, and clearly that is one of the questions we have to deal with on the Ag Committee, if we take these proposals to the administration, my proposal, the others, and try to put a unified program together.

Let me thank you all for your testimony. Let me call the third and final panel if I could.

Let me introduce the panel here to save some time as they are finding their seats. First of all, Barry Eppley, who is the producer in Wabash County, Indiana, in the Fifth Congressional District, who has been involved in sustainable agriculture. Jack Strange, who is the manager of Sweetser Service Center in Greater Sweetser, Indiana. David Swaim, the crop consultant from Crawfordsville. Doug Mason, who is the director of pollution prevention with the Hoosier Environmental Council; and Bob Ramsey, who is a farmer from Newton County who is representing the Citizens Action Coalition here today. We are going to get a diversity of views from this panel. All of you have involvement one way or the other with sustainable agriculture. We would ask you to limit your statements to about 5 minutes, so that we have a little bit of time left for questions. We do plan to finish by the noon hour.

Barry, let me ask you to be the lead-off hitter here.

STATEMENT OF BARRY EPPLEY, PRODUCER, WABASH COUNTY, IN

Mr. **Eppley**. Thank you. Good morning. My name is Barry Eppley. I farm with my parents in southern Wabash County, which is approximately 40 miles southwest of Fort Wayne. There are three families earning a living on our farm. We typically raise 900 acres of corn, 900 acres of soybeans, 35 acres of wheat, and the balance is set-aside. However, in 1989 we grew 35 acres of canola, 44 acres of organic adzuki beans.

I would like to give a little background of some of the newly deemed sustainable practices that we have employed. My father, Dean Eppley, switched tillage practices from a moldboard plow to a chisel plow system, and this reduced the input costs—labor, repair, equipment costs, fuel, et cetera—as well as provided additional ground cover over winter. This change in tillage practices occurred in the late 1960's. About the same time, Dean also was working with no-till. Problems with equipment technology, chemical selection, weather, and soil types prevented the no-till plots from competing consistently with the chiseled plots. No-till was temporarily sidelined. We have recently, and plan to in 1990, no-till drilled soybeans and wheat. The 1970's provided a level of success which allowed for expansion of the acreage we were operating. By spreading our overhead over these acres, we were able to lower many of our per-acre input costs.

In 1978, we began participating in a ridge-tillage demonstration program. This program was led by Mel Boyer, district conservationist. After 3 years of side-by-side trials, we switched our farm to the ridge-tillage system.

Ridge tillage, as implemented on our farm, is a tillage system which consists of two cultivations. The second cultivation throws soil up around the growing crop, forming a ridge. The crop is then harvested in the fall, and all crop residues are left on the soil surface. The following spring, the ridge planter peels off approximately the top 2 inches of the ridge, and the seed is placed into this moist soil. Planting and cultivation are the only tillage required. We band apply our herbicides with the planter and rely on cultivation to control weeds between the rows. This allows us to reduce the amount of herbicide used at least enough to offset the cost of one of the cultivations. For example, herbicide costs for 1990 corn will be approximately $5 per acre. A broadcast rate of the same herbicide program would be $11.33 per acre, and Purdue University's custom rate cost for ridge cultivation is $6.65. By adopting and adapting the ridge tillage system to our farm, we were again able to reduce the cost of many of the inputs.

One of the most frequently overlooked savings is the reduction of fuel consumption. This reduction, along with the use of ethanol-blended gasoline, has greatly lessened our exposure to the potential stranglehold of the Mideast oil cartels. I think that we, as farmers, should use and promote, in that order, ethanol fuel. These types of input reductions have been the goals of our farming operation for many years.

Among the factors pushing these changes in our farming operation has been Dean's, my father's, activities as a member of the local, State and national levels of Soil and Water Conservation District and the Corn Growers Association. In addition to Dean's activities, I am working with the Rodale Institute as an on-farm research cooperator. I am also a director of the Indiana Sustainable Agriculture Association. This organization is a forum for addressing concerns in our food and fiber production, distribution, and utilization system, including areas such as soil productivity, petrochemical dependency, environmental pollution and agricultural production costs. Through these activities, we have been able to interact with a broad range of people involved in agriculture. This range has included university researchers, agriculture industry and extension personnel and other farmers. The knowledge gained through these contacts has helped us to evaluate our own farming practices as well as expose us to alternatives. Over the years, our family has strived to improve our operation through the use of these alternative methods. So I guess we have been messing with LISA and did not know it.

In 1989, with the Rodale Institute, we conducted an on-farm research project on the effects of lowering nitrogen rates on our ridge-till corn. Excessive rain last spring nullified any data gained from the project. In other words, the nitrogen was not the yield-limiting factor. However, we are planning to continue the work on the nitrogen rates, as well as begin work on a cover-crop analysis plot.

The current farm bill severely limits our ability to utilize and implement many of the alternative methods available to us. Unless the 1990 farm bill is modified, we will be unable to take economic advantage of these alternative sustainable methods on our farm.

I would like to be able to add a small grain to our crop rotation. We have a sizable corn base; and with the beans-on-base flexibility in the current farm bill, we are able to attain a corn/soybean rotation. But because we only have a 35-acre wheat base, our rotation flexibility is severely limited. Adding wheat to our rotation would allow us to more easily utilize a cover-crop system. For example, growing a clover following wheat would build fertility for the following year's corn crop. This would actually reduce the amount of purchased inputs, as well as help break some of the weed, disease, and insect cycles. An additional benefit would be a better utilization of time, labor and equipment.

While these benefits are good, the primary objective for these alternative sustainable systems and practices is the preservation, maintenance, and improvement of our Nation's most important resources: Our soil and water.

These objectives can only be met through the continuation of proven means, as well as newly accepted and undiscovered methods. These proven means can best be illustrated by university and extension research. The newly accepted methods include replicated on-farm research as utilized by the Rodale Institute. These methods have been proven to be statistically valid by Dick Thompson, a farmer from Boone, Iowa, who is a member of the practical farmers of Iowa. These two examples represent the existing infrastructure in place that should be relied upon to provide continuing direction. Under the present governmental policies, funding moneys have been severely reduced. This is resulting in a reduction of research staffs, facilities, and activities at a time when they are needed most.

I have made no specific comment concerning environmental issues because these issues are an underlying theme to my entire testimony. All of my efforts are with intentions to improve the environment. Keeping this in mind, I would like to offer the following comments.

Fuels and other purchased inputs: By reductions in fuel consumption and pesticide usage, oil importation can be reduced. In addition, better education and promotion of the benefits of using ethanol-blended and ethanol-oxygenated fuels will result in further import reductions, while increasing consumption of this product of American agriculture: Corn.

Organic production: As part of our continuing search for alternative sustainable practices, we now have a portion of our farm dedicated to organic production. Having set aside acres has allowed us to move into organic certification immediately. However, this has not been done painlessly due to the difficulties and inconsistencies of the certification process. Without the set-aside acres, it would have taken us up to 4 years to become certifiable. This illustrates the need for a national certification procedure. In addition, serious consideration should be given to transitional certification program for commercial farming operations, such as ours. Current legislation recently introduced in Congress provides a good first step in this direction.

Research and development: At a time when agriculture is being bombarded with real and imagined charges, the funds needed for research and development to answer these charges are being reduced at State and Federal levels. It is imperative that we reinstate and increase funding. This should be done in the traditional university and extension areas, as well as in emerging on-farm research. Result of this funding activity will speed verification, adoption, and adaptation of alternative, sustainable practices by the commercial farm operation.

Flexibility: A voluntary program should be established to enable producers to adopt sustainable production systems for their farms. Opportunity should be provided to develop multiyear, farm-specific management plans to enhance profitability and resource stewardship. The program should provide flexibility to adjust and modify the plans. Barriers in the Farm Program should be reduced to allow adoption of more sustainable agricultural systems. For participants in this program: One, payment yields should not be adjusted downward. Two, acreage-reduction requirements can be satisfied in whole or in part through acreage adjustments resulting from crop rotations and conservation practices that are part of the farm plan. Three, base acreage history shall be maintained and deficiency payments shall be made on any portion of base acres devoted to resource-conserving crops. Four, finally, cross-compliance should be waived.

In summary, these are the issues—some of the issues—that I feel warrant serious consideration. I do thank you for the opportunity to present my views here today.

[The prepared statement of Mr. Eppley appears at the conclusion of the hearing.]

Mr. Jontz. Thank you for the very thoughtful statement. Now, Jack, we will go to you.

STATEMENT OF JACK STRANGE, MANAGER, SWEETSER SERVICE CENTER

Mr. Strange. First of all, I want to indicate that I was just asked last Thursday to come and testify by Congressman Jontz' office on low-input sustainable agriculture. I am not totally adverse, as well as some of the other people here today, but I guess I bring out a little bit of common sense back to this hearing.

My background is as a supplier of fertilizer, farm pesticides, and application services to farmers in the northwestern area of Grant County. I also have a 70-acre farm that produces corn, soybeans, and ASCS receipts.

I understand LISA to be different things to many different groups. Environmentalists are using it to promote organic farming and safe wellwater. Politicians like its publicity they can surround themselves with. LISA is a source of Government dollars for land-grant colleges to sustain their research budgets. Production agriculture sees LISA as a new name for economical and science-proven methods they have been using for decades.

Which group is right about LISA? Life is right about LISA. Life is never totally one-sided. Life has meaning only when in balance.

What have I said. I earn my livelihood from sales and services that environmentalists are trying to suppress, yet I speak as though I am one. What I am is a producer with stewardship, like most farmers and Ag businessmen are today. It is a heritage we have sustained in agriculture through the generations. Maintain and improve. These are goals of producers. American production agriculture has been good to our Nation through the quality and quantity of food and fiber we have produced for citizens and exporters.

To sum up, LISA is an old face with a new name. Harmless? Could be. LISA appears to becoming a political football. The present farm bill has brought regulation, stripped of common sense methods to the farm. Is the 1990 farm bill going to tie these same type of regulations to production agriculture? The liberal environmentalists have dreamed up some not-so-sound things. Is this good?

LISA's role in the 1990 farm bill is the total reason for this meeting today, is it not? Production controls are causing inflexibility of crop-production decisions now. If the 1990 farm bill is to sustain agriculture, let it be through research to increase demand for our food and fiber, such as value added. We have experienced the short-comings of supply regulation in the past farm bills.

In chapter 3 of Ecclesiastes, Soloman said: "There is an appointed time for everything." It is a time for freedom in Eastern Europe and the Soviet Union. Is it a time to suppress and regulate American agriculture? Will this be the reward agricultural producers receive from their country? I plead. Please do not let this happen.

[The prepared statement of Mr. Strange appears at the conclusion of the hearing.]

Mr. JONTZ. Thank you. David, go ahead and proceed.

STATEMENT OF DAVID R. SWAIM, CROP CONSULTANT, CRAWFORDSVILLE, IN

Mr. SWAIM. Thank you, Mr. Jontz. Good morning, panel. I serve as an agricultural consultant, crop production specialist to over 100 farms in central Indiana. Of my clientele, a few are regenerative agriculturalists, several are conservation tillage specialists or advocates, and the majority are conventional farmers. In general, the farmers that I serve want as much control over their inputs as possible without sacrificing productivity. They want the safest crop protection methods available without risking the loss of the crop. They are interested in conservation oriented, biological emphasis, reduced purchase input systems; but many are so highly leveraged that they cannot afford any mistakes during transition.

As a professional crop consultant, I am concerned about many gaps in our knowledge, and I recognize considerable farmer resistance to the implementation of what is now popularly called "low-input sustainable agriculture." In order to reduce chemical inputs, advocates propose increased reliance on crop rotation, cover crops, green manure crops, and cultivation for weed control. While these are time-honored cultural practices, the majority of my clientele still resist them.

They resist rotating to small grains or grass and legume forage, fearing loss of corn base, and the bill proposed by Representative Jontz addresses this and seems to be very encouraging for crop rotation.

They resist cover and green manure crops, fearing inadequate nitrogen fixation, delayed planting dates, and poor stands. Now this is something I want to address specifically. We have not talked about the risks, specifically, with some of these people, and my recommendations that would lead them to do this or keep them out of it—it is the firing line that I operate on.

In Indiana, corn yield is popularly correlated to higher nitrogen levels, early planting, and adequate uniform stands. That is the background that most of the people I am working with are coming from. The past few years, we have had great difficulty in managing winter cover crops. When the fall weather was dry, our legume seed did not germinate. For the fine hairy vetch, for nitrogen production, a winter kill, for allowing a legume cover crop to get enough spring growth for adequate nitrogen fixation, we were late in planting.

And then in 1988, we had our worst-case scenario: When any growing plant cover, whether it was weeds, legumes, or small grain, resulted in excessive transpiration of our soil moisture and severe reduction in our stands and greatly delayed early growth of the crop. Since 1988, many of the conservation tillage farmers that I have contact with have refused to take the risk of using cover crops. They said it would take a long time for them to forget the disaster they had in the dry spring of 1988.

These negative experiences can be overcome only through extensive research and technology development to refine the management of cover and green manure crops. Once the systems are developed, there will then need to be extensive on-farm demonstration in order to build farm confidence again.

Our concern is that these people resist total reliance on cultivation and total reliance on side-dressing nitrogen, for the reason Mr. Milligan mentioned. They fear being rained out by the frequent heavy rains that we have here in the eastern Corn Belt in May and June.

Many are concerned that we cannot effectively implement the practices that are standard for the western Corn Belt, the prairie areas west of Mississippi, because of differences in our soil, our lower organic soils, and the difference in our rainfall patterns. We feel we are at much higher risk.

Again, research and extension would be required, possibly accompanied by regulations, to significantly reduce preplant and preemerge application of pesticides and nitrogen, if that were the goal.

Preventing soil erosion and improving moisture conservation are critical to sustain productivity. I would like to see ARS, SCS, give priority to the studying of the impact of crop management systems on biological activity, soil structure, and rainfall infiltration rates. Parenthetically I would like to say that increased rainfall infiltration, due to improved cultural systems, would greatly reduce the need for building run-off control structures. This information would need to be area-specific, soil-specific. We also need to see research to refine our management systems. We need to see research on managing to optimize the natural biological controls. The package is not yet together to back up ICM management consultants so we can go out with confidence and carve out other direction.

As a consultant, I appreciate that LISA has funded research in basic agri-ecology so that we can understand not just the toxicology aspects, but also the beneficial interaction of all the organisms in our production systems. I would like to mention, for those who are not aware, a new publication by University of Illinois called, "Agriecology," subtitle: "Science and Education for Sustainable Agriculture." I feel that this is a good sign. The academic community is looking at the holistic approach, at the full system, and this needs to be promoted.

Thank you.

[The prepared statement of Mr. Swaim appears at the conclusion of the hearing.]

Mr. JONTZ. Doug.

STATEMENT OF DOUGLAS MASON, DIRECTOR, POLLUTION PREVENTION, HOOSIER ENVIRONMENTAL COUNCIL

Mr. MASON. Good morning Mr. Chairman and members of the committee. Despite promising developments and good intentions, I want to present as my basic premise that conventional agriculture as practiced in the United States is not sustainable. Environmental issues as they pertain to agriculture were clearly signaled by

Rachel Carson's "Silent Spring" in 1964, which raised questions about the secondary impacts of toxic substances, especially insecticides, on the environment. Concern about the adverse effects of synthetic chemical pesticides on human and animal health had begun in the 1950's when it was discovered that organochlorine pesticides, such as DDT, are very persistent in the environment and can damage animal systems. After the success of Earth Day, 1970, larger philosophical issues raised by the environmental movement resonated with the reevaluation of the goals of agricultural development in the United States and the technological basis on which this would be carried out.

Fortunately, many environmental and economic factors converged in the 1980's to make alternative farming practices more appealing. Exports have declined since 1981. Although the situation is improving, sectors of the agricultural economy continue to experience hardships. As many in the audience probably already know, Farm Aid Four is being held April 7, at the Hoosier Dome in Indianapolis to help offset and publicize the continuing effects, whether environmental and social, of the farm crisis.

But beyond economic and technological influences, the future of agriculture is being shaped increasingly by environmental trends and resource constraints. Water pollution is probably the most damaging and widespread environmental effect of conventional agricultural production. There was an excellent series in the Des Moines Register which I think played a role in triggering the landmark Ground Water Protection Act in that State back in the mid-1980's. Agriculture is the largest nonpoint source of water pollution, which accounts for about one-half of all water pollution. Surface water damage from agriculture is estimated between $2 billion and $16 billion per year. These estimates are approximate, however, and may underestimate the long-term costs of pollution. As Larry Erb mentioned, herbicides such as atrazine and alachlor were found in more than one-half of 155 Midwestern—including Indiana—streams tested early last spring, the time when contamination levels should be lowest, according to a U.S. Geological Survey study released in December.

Increased use of nitrogen fertilizers and pesticides, particularly herbicides, over the past 40 years has raised the potential for ground water contamination. Greater use of feedlots that concentrate manure production also heightens this risk. Several of the most widely used pesticides have the potential to leach into ground water as a result of normal agricultural use. Pesticides have been detected in the ground water of at least one-half the States of the Union as a result of normal agricultural practices. The USDA calculates that almost 50 percent of all U.S. counties contain ground water susceptible to contamination from these chemicals. And Purdue recently acknowledged that, based on a computer projection from a USDA study, Hoosier aquifers have the greatest potential for ground water contamination from pesticides and nitrates among any of the States.

Because ecological interactions are extremely complicated and have generally not been studied by the EPA, the effect of pesticides on the environment is not well understood. The decline of predatory birds in the 1960's and 1970's because of chlorinated hydrocarbon pesticide use, however, is well documented. Widespread and heavy use of pesticides in this country has severely stressed other animals, including honeybee and wild bee populations. Other unintended effects of pesticides include the resurgence of pests after treatment, occurrence of secondary pest outbreaks, and development of pesticide resistance in target pests. When insecticides or other pesticides are employed against one pest, its natural enemies or those of another pest may be reduced or eliminated. The control of insects by broad-spectrum insecticides also destroys beneficial predators, and populations of many previously innocuous species may then increase rapidly and cause major economic damage. Many of you are probably aware that a class action suit was filed in December in the Warren County Circuit Court against American Cyanamid because of soybean herbicides which remained active in the soil longer than product labels indicated, causing damage to corn the following year.

Many of the chemical agents introduced into the food supply, including pesticides, fertilizers, plant-growth regulators and antibiotics, can be harmful to humans at high doses or after prolonged exposure at lower doses. Alar was only the most recently publicized scandal—I am old enough to remember the cranberry scare of Thanksgiving, 1959. Although cancer-causing chemicals have attracted the most concern, agricultural chemicals can also have behavioral effects, alter immune system functions, cause allergic reactions, and affect the body in other ways.

A steadily increasing number of family farmers are discovering a principle often abandoned by their fathers: Lower inputs, when carefully planned, do not mean lower profits. Through crop rotation, biological pest control, innovative tillage management, and other methods that require careful planning, they are developing a more efficient way of farming. I believe that such a "sustainable agriculture" provides a safer working environment for agricultural workers and safer food for consumers. The farmers who are turning to these techniques are demonstrating their ability to act as proper stewards of the land. The program being offered by H.R. 3552 will allow the flexibility for all farmers to be stewards, and I appreciate this opportunity to testify in favor of the Sustainable Agricultural Adjustment Act. Thank you.

[The prepared statement of Mr. Mason appears at the conclusion of the hearing.]

Mr. JONTZ. Bob, you are here to clean up dinner.

Mr. RAMSEY. I have the same problem you have, Jim. I am short-winded. I do not talk much.

STATEMENT OF ROBERT RAMSEY, FARMER, ON BEHALF OF CITIZENS ACTION COALITION OF INDIANA

Mr. RAMSEY. Well, I am Robert Ramsey. I am from Newton County, Indiana, in the Fifth Congressional District where Mr. Jontz is our representative. I would like to thank Jim and Mr. Grandy and the fellow whose name is behind the tag—I cannot see it—from California, for giving us an opportunity to be here. I like his smile; do you, Jim? He smiles real nice. Since I am last, I do not know if I get what is left or not, but I am sure it is not going to be enough, but we will start anyway.

We were talking about sustainable agriculture. I have handed in a paper, Jim, with this written down correctly. We were talking about sustainable agriculture. I think all farmers are interested in having sustainable agriculture to a point. We are on our farm. We do not want to go out and damage anybody. We do not intend to poison people or ourselves or anyone else. But I think that the problem is here to get anybody to switch to anything, are we going to be able to stay on the farm as farmers? We can hardly switch to anything until we begin to get a reasonable income to our labor and our business. There is only one way that people can stay on a farm is to become efficient, which we have done, and to become economically sound, which is almost impossible to do with the policies that we have in force today.

Congressman Jontz, you are to be applauded for all the work you have done in our area. I know every time you come to see me I am always jumping on your back, but I am proud to be associated with you because I have never seen anyone else, in all my years of existence, working harder to try to represent their people as you have.

I think you have to go back again, Jim, and realize, and rest of the committee people, that we need to have a farm policy that not only lets us protect ecology, protect our environment, but lets us farmers make a reasonable living. Now we can talk all day, and probably just about have, about other things that lead into agriculture and how to get into this thing, but let us talk just a few minutes—that is all I have left—about the real crux of the problem.

The problem is not that the farmer does not want to save his environment. The problem is not that we will not adapt to new practices. Believe me, I guess I must be the oldest man in the world in here, because I cannot see that anything we want to try to do is new, because we used to do this all the time. We planted crops, we planted legumes, we turned legumes under to build the land, we did some tillage practices to reduce herbicides, so we did not have to go so heavy on it. We need herbicides in this farm business. I can tell you that a long time ago, I used to pray for herbicides, because I could not raise a clean crop. But what we need is safe chemicals.

Now I am sure that our chemical industry can do this. There are chemicals that are made today that we can spray on a crop of contact killers and biodegradable chemicals which disappear after a certain length of time. There are chemicals like that. I think this is what we need to have completely. I know the chemical companies will if we pressure them to do that. Now we must have research again on the farm, like you were talking about, Jim.

I am varying from this paper that we handed in way off because of the time limit, so I would like you to read that later.

Now another thing is, we have to address the critical situation that the farmers are having and have had. There was the 1987 farm act—came up and passed onto Congress, and it is not being very fully implemented as proposed. There was no debt written down over the years, and will be written down, to have the farmers be told their debt restructured is now income—they have to pay income taxes on it. I understand there may be action on that, but there needs to be a lot more action on that. So you see, things, sometimes as for farmers, just do not make sense, because it just does not work to write down a debt that you could not pay and expect to pay taxes on moneys you do not have. It just is not right.

I would like to hurry on to another part of this that I would like to mention. It is about foreign imports and foreign trade. I do not believe we should live in a world by ourself, but I do think that we need to consider the fact that just about everything that we have ever gotten into as far as opening the world markets up to us has caused us almost a disaster in our country. I would like to name, like the steel industry, textile industries, several industries in our country that varied from the methods, and foreigners have imported goods much cheaper than we could manufacture. So that does not work the way the program wants it to work, and that is—you come in here and say, 5 years, they did not have to plan so you can see how it is going to work. Well, it is not working. It is not working. To verify that fact, we have information here that would prove the fact that we are telling you that people are going over to say, for example, China, and they are going to raise cattle all the way from start to finish, packages, meat; bring it back to the United States and sell it in the other countries. And ironically in the same article, it tells that the people that are making it will not be able to afford to eat it. That people are being forced to produce this will not be able to afford to eat it.

You are asking the U.S. farmer to produce under free-world market, and we cannot compete. A neighbor of yours out in one of your States, Mark Ritchie, will tell you, and there are many articles on the fact that our costs of inputs are much higher than they are in a lot of other places. I would like you to consider that.

And I will be quiet. I am not done, but it looks like, according to my watch, my time is up. But we need—OK, Jim, give me 1 minute—but we need to get back to a Farm Program where the farmer gets his money from the marketplace—not from the taxpayers. We do not want to be on welfare. Like this man here a while back explained, when we can make a loan out for a loan price on our commodity, then we have to pay interest on that loan and pay that loan back. Therefore, the market demands a price.

Thank you.

[The prepared statement of Mr. Ramsey appears at the conclusion of the hearing.]

Mr. JONTZ. Let me thank all of the panelists and apologize that we will not have as much time for questions as what would be desirable. Of course, all of the statements will be submitted, will be printed in full in the record, and we will have a chance to study them in the future.

I want to turn the gavel back to the chairman. I do not have any questions that I need to ask at this time. I have access to all of you and can ask questions at some point in the future. But let me say to our chairman, George Brown, thank you again for your assistance. It is a pleasure for me to turn the gavel back to you.

Mr. BROWN. All right. Thank you, Jim. I will ask Mr. Grandy if he has any questions at this point.

Mr. GRANDY. No, I have no questions, Mr. Chairman. I just want to thank the panel for contributing to this discussion. It is very timely, because as Chairman de la Garza had said, we hoped to have an ag bill written by the end of July. So these hearings are very timely, and this input, I am sure, will be translated into policy. Thank you.

Mr. **Brown**. All right. Mr. Ramsey, you did cover an awful lot of subjects, some of which are not normally in the jurisdiction of this subcommittee, but we appreciate it. All of the members of this subcommittee are also members of the other subcommittees which do deal with this, and your input will be very useful on things like credit and other things.

You made one statement that I just wanted to ask you about, having to do with the confidence of the consumer in the safety of the food supply. Actually, that has been a very high priority for this committee for the last several years, and particularly the last year since the Alar scare developed over apples, which happened about 1 year ago. We are planning to deal with that in the next few weeks in a bill separate from the farm bill: the so-called FIFRA, in which we will be trying to provide some additional safety assurances to the consumer.

Now actually, I think you know as well as I do that the consumer exaggerates the problem of chemical additions, chemical use in agriculture. One of the things we have to do is figure out a way for the urban consumer to understand exactly what the problems or the benefits of using chemicals are. Your suggestion about the need to do more research in this fashion in our publicly supported universities is very good. That is one of the priority areas and the research recommendations that the Department of Agriculture is making, and we hope to be able to provide them with the resources to do that.

I have no additional questions myself. Any of you gentlemen wish to offer any final comments?

Mr. **Mason**. I would like to see more of the land-grant universities doing what Iowa State is doing. For example, a video course in sustainable agriculture is being offered through the Leopold Center, and I think other land-grant schools need to give academic credentials to the whole idea of alternative agriculture.

Mr. **Brown**. Tell me about this video course that you are getting from Iowa. That seems to be a long way to go for your courses.

Mr. **Mason**. Yes. We have to mail for it. It is actually coming through the Marion County Extension Service.

Mr. **Brown**. Do they provide you with a video tape?

Mr. **Mason**. Yes. They offered a course and then they video tape it and mail it to people out of State. They even have a live satellite course for people around Iowa, I guess. There are usually two guest speakers for each 2-hour lecture, and there are 12 total lectures. They cover everything from ground water protection to proper tillage techniques, and on and on. It is really outstanding because you have people who have done research in the areas giving credibility to alternative agriculture.

Mr. **Brown**. Well, it may look a little extraneous, but actually this committee is deeply concerned about the effectiveness of agricultural educational programs and how we can improve on them. This kind of video education is really the way for the future. You are going to find not only video tapes, but two-way satellite video conferencing, which is easily possible technically today. Your multichains use it, for example. There is video-conferencing capability for visiting businessmen who use their facilities for business conferences. And you are going to see farmers needing both educational help and technical help through computers and video distribution means of various kinds. I am glad you are using it.

Anybody else?

Mr. SWAIM. Yes, sir. Here in Indiana, the Indiana Agricultural Association has been working in conjunction with Purdue University and the Soil Conservation Service and others to try to put this type of information into producers hands. At the next board of directors meeting, we will be discussing purchasing the video series from Iowa to make it available to people in Indiana. Representative Jontz was a guest speaker at our meeting at Lafayette on sustainable agriculture in January. Within that 2-week period, there were four meetings on alternative agriculture in Indiana, all well attended. But there is information, step-by-step, becoming available. We just have to keep that flowing and we have to do the research to undivert it. And do the on-farm survey work. That is something we have not talked too much about, is the need to go onto the farms that have already long-term history of alternative systems and monitor what is happening; see the ecological differences there, compared to their neighbors. There is a task force at Purdue presently getting a proposal to do this kind of work.

Mr. BROWN. Well, you ought to make sure that the work that is done at Purdue gets exported over to Iowa, too, in case they should need any of it. Did you have another comment, Mr. Ramsey?

Mr. RAMSEY. Yes, please. I would just like to underline, as someone said already I am sure, that we need, like you just said, we need to educate our people about the safety of our food because we believe—I believe—and I am sure most farmers believe they are doing it as safely as possible. We have a very high quality of food in the United States. I am sure we do. I think people need to understand where it comes from also. I realize the position the farming committee is in trying to do the farm bill, when there are only just about a handful of people. We realize that and that is really hard. So we think that maybe we ought to go to the public and talk about food. This is not just a farm bill you are talking about, sir, it is your food we are talking about.

Mr. BROWN. Right.

Mr. RAMSEY. And that is what we need to tell them. We tell them "safe" and keep control in the United States over this food control, if you know what I am saying without going into another 15 minutes.

Mr. BROWN. Yes. All right. Thank you again, gentlemen. You have been extremely helpful and we have enjoyed this opportunity very much. We will try to come back again.

With that, the subcommittee will be adjourned.

[Whereupon, at 12:10 p.m., the subcommittee was adjourned, subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

INDIANA COMMISSION FOR AGRICULTURE
AND
RURAL DEVELOPMENT

Lt. Governor Frank L. O'Bannon, Commissioner
David L. Miers, Deputy Commissioner of Agriculture

LOW INPUT SUSTAINABLE AGRICULTURE

(LISA)

FEBRUARY 19, 1990

Sustainable agriculture generally means utilizing production means that conserve our natural farm resources while at the same time, are **profitable, competitive, and productive.** These production systems make use of crop rotations, conservation tillage, and new plant varieties to make it work.

A considerable amount of research has taken place in the last few years to determine more effective ways to quantify the nutrient needs of crops and the most efficient control of the pests that harm these crops. The State of Indiana has participated in this research by allocating $250,000 towards eight demonstration plots throughout the state to showcase Sustainable Agriculture in 1988 and 1989. Over a quarter of a million people viewed this research at these field demonstrations. The practical application of this research is the foundation upon which farmers will build their **Sustainable Agriculture** program.

Indiana farmers spent over **half a billion** dollars on commercial fertilizers and chemicals to control pests on or in their crops in 1987, the last year for which we have reliable data. Some say that the existing federal farm programs cause farmers to spend more than they normally would as participation in the programs often disrupts the normal production and rotation practices that allow for natural control of crop pests as well as the replenishing of soil nutrients.

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The interaction of the soil, the crops, and the pests that threaten both the land and the grain is, to say the least, complex; however, every soil type and every crop produced has a point of **Maximum Effective Yield.** That is to say that every crop and soil combination, utilizing existing technology, has a point of **diminishing marginal returns,** and after that point it is not profitable to continue to apply fertilizers and chemicals because yields will not increase.

Many farming operations have production practices that call for set amount of fertilizers and pesticides to be applied to each acre each year, often without regard of the previous crop. This allows for an excess of these compounds to be present in the soil, and in some cases, even to build up to the level that the surplus could be detrimental to the crop. Likewise, if there is more fertilizer and pesticide applied to a soil than either that soil or the growing crop can absorb, then the potential exists for this excess to find its way into the groundwater.

These environmental concerns, as they encompass **Low Impact farming, Maximum Effective Yield, Food Safety and Groundwater Pollution,** are of primary importance to the agriculture community within the State of Indiana. Of secondary--but no less vital--importance, is the need for flexibility to be built within the 1990 Farm Bill that will allow farmers to rotate their crops where possible in order to achieve the benefits outlined earlier. We are aware that Congressman Jontz has proposed flexible crop rotation provisions in the 1990 Farm Bill, and we thank him for this initiative. The Farm Bill should also be flexible enough to anticipate changes in the world marketplace, and allow American farmers the opportunity to take advantage of those changes.

We recognize the need for America to be able to produce a safe, abundant food supply not only for our own citizens, but also for the hundreds of millions of people all over the world that we feed. Nearly 3 out of every 4 bushels of grain produced in Indiana is exported, so we are acutely aware of the need for a Farm Program that allows for our farmers to produce for the marketplace. On behalf of the Commissioner for Agriculture, Lt. Governor Frank O'Bannon, we ask that you consider our position. Thank you for this opportunity.

Statement of

Stephen B. Lovejoy
Coordinator
Center for Alternative Agricultural Systems
Purdue University

to the
House Committee on Agriculture
Sub-Committee on Domestic Operations, Research and Foreign Agriculture

February 19, 1990
Royal Center, Indiana

Good Morning Mr. Chairman and members of the subcommittee. I am Steve Lovejoy, Coordinator of Purdue University's Center for Alternative Agricultural Systems. I appreciate this opportunity to testify about alternative agriculture and how agricultural production can complement society's desire for a cleaner environment. In addition, I would like to introduce you to the work underway at Purdue University on alternative agricultural systems.

Society is concerned about the quality of the environment. All the polls suggest that Americans want a cleaner environment even if they have to sacrifice economic growth or deal with increased regulations.

What this implies is that society is telling all sectors of the economy, including the agricultural sector, that they want a different mix of outputs. In the 1970s, society was giving the agricultural sector the message to PRODUCE, PRODUCE, PRODUCE. Agriculturalists were asked to produce as much as possible to sell on the world market. Rarely did individuals or their representatives ask about the off-farm effects like water quality or wildlife habitat. However, in the 1990s, that is **no longer** the case. Society is giving the agricultural sector the message that they no longer want food produced as cheaply as possible! They want relatively inexpensive food but they also want a better environment.

Our job, you as elected representatives and members of the House Committee on Agriculture and me as an agricultural scientist, is to help the agricultural sector to produce the desired mix of outputs and to help society determine the exact mix they desire and the trade-offs they are willing to make.

Agriculture realizes that many people are concerned about the environment and are realizing that this may require changes in their operations. As one farmer stated "Farming is a service industry...If the other 97% of the population worries about water quality and food safety, farmers had better figure out how to make a living by farming in a way that meets those needs." (Donn Klor, Illinois farmer in SoyBean Digest, August/September, 1989:20)

In light of these concerns, there are many types of agriculture that are being advocated to meet these changing societal goals including:

Low Input
Sustainable
Regenerative
Holistic
Alternative
Organic
Agro-ecologic
Permacultural
Reduced Tillage

Each of these perspectives have a point; what is needed are changes in human behavior, alterations in the way we produce food and fiber in order to provide the desired outputs. Protection of our environmental resources will require us to alter our soil and water conservation programs as well as our agricultural programs and production practices. However, we must do this in an intelligent manner keeping in mind the dual goals of food production and environmental quality. Policies to achieve these societal goals will require the following orientations:

> First, we must target our efforts and resources to those regions, those counties and those acres where agricultural production imposes unacceptable damage to environmental resources. Universal, across the board policy instruments will be extremely inefficient.
>
> Second, we must develop programs and mechanisms which permanently alter production patterns that impose unacceptable damages upon environmental resources.
>
> Third, we must carefully examine proposed production changes for their impact upon food supplies, prices, local communities and farm families as well as their impact upon environmental amenities, health risks or ecology.

Most farmers want to be good stewards of the land. We need to help them in their search for production systems which will produce the food and fiber desired by consumers and to provide the high quality environmental resources demanded by our citizens.

In general, public agencies (federal, state and local) must provide farmers with the information and incentives necessary to utilize production practices, crop rotations, chemical applications and animal production practices which maximize production of food and fiber BUT minimize the impacts upon environmental resources.

What does Purdue and the Center for Alternative Agricultural Systems plan to do in fulfilling our obligation to agricultural producers in Indiana: The purpose of the Center is to foster and promote interdisciplinary research, extension and teaching in the area of alternative agriculture, including relevant thrusts in low input and sustainable good management practices within the context of profitability, environmental soundness and social acceptability.

The goals of the Center include the development of the following:

1. Sustainable agricultural systems, including the long-term maintenance of productivity, the continued vitality of rural communities, and the preservation and enhancement of the environment.
2. Alternative plant and animal production systems which enhance profitability, including the optimum use of purchased inputs such as fertilizer, pesticides and antibiotics.
3. Alternative crops and products.
4. Alternative uses of resources such as land, labor, and capital, as a means of generating income in rural areas.
5. Alternative uses and markets for traditional agricultural products to enhance demand.

In short, the School of Agriculture, and the Center are interested in assisting producers in Indiana with alternative production systems which meet society's environmental goals and the producers' economic goals. In addition, we want to help society, through its representatives like. the members of this subcommittee, to refine their environmental goals in such a way that we get a clean environment and maintain a healthy and productive agricultural sector. All of us need to assist in determining the level of agricultural production and environmental quality that our society wants and can afford.

More germane today is what is needed from the federal government, especially in the 1990 farm bill to assist producers in meeting society's needs. The following would greatly assist:

1. Remove disincentives or barriers to alternative systems that are present in existing commodity programs.
2. Encourage long-term protection of environmental amenities through voluntary easements for filter strips, wetlands, etc.
3. Institute mechanisms for ensuring environmental protection from existing or potential CRP acres when the contracts expire.
4. Provide for additional research on alternative agricultural systems including the effects upon environmental resources, commodity prices, local communities and farm families.
5. Provide for increased dissemination of information that we presently have as well as new findings so that agricultural producers can make better informed decisions in their efforts to satisfy society's desires for food production and a clean environment.

In summation, America's farmers need assistance in meeting these societal goals and the 1990 farm bill can be a strong signal to them that Congress and the federal government is ready to cooperate and help them.

Thank you for this opportunity to testify today. I will be happy to answer any questions that you may have.

SUSTAINABLE AGRICULTURE

February 19, 1990
Ed Heckman

Agricultural technology is continually changing; farmers are always thinking about something new. Then they try a new practice on a few acres. With the continual increase in the concern for the environment and the always present price-cost squeeze, some farmers are investigating and/or using sustainable agriculture.

How do agricultural producers accept new ideas? What examples does history give us? People can be placed into five groups relative to their acceptance of new ideas. The small group of innovators are always trying something new on their own or after they have been informed about a new practice. The next group of early adopters accept the practice after some research results and some farmer testimonials. The next group is the largest group, they accept the practice after a great deal of research and on-farm testing. The last two groups are the slow adopters and the late adopters.

Sustainable agriculture is at best in the second group. There has been much talk and some interest, but the adoption has been slow. USDA and university research is at a low level.

History has shown us that few agricultural changes have occurred with great speed. Some examples are the following:

tractors
hybrid corn
lime
combines for corn
solid beans
N-serve
computers
fertilizer for alfalfa
conservation tillage
fertilizer for soybeans
CRP

Most changes of this type take many years for the majority of participants to accept.

What encourages agricultural producers to try a new practice? Generally, the two front runners are stewardship and economics with economics being a major force. What will it cost me and what will be my returns? These are two important items.

One of the characteristics of sustainable agriculture is to minimize the use of agricultural chemicals without drastically reducing crop yields. This particular goal is shared by many farmers as they look at costs and profit margins.

Reduced costs is one advantage. What are some of the costs? Dave Mengel's research at Purdue University has shown that the management level must be very high to make the crop rotation system with small grains and legumes work. The labor requirement per acre increases noticeably.

What incentives can a group or an agency offer to producers to encourage more of them to accept sustainable agriculture more quickly? Flexibility comes into action here. The current corn and wheat bases are very important to producers. Allowing them to grow other crops without penalty to their bases is a step in the right direction. Another possibility would be to allow producers to experiment with uncommon crops and systems on the current set-aside acres. This would increase their management and confidence level without sacrificing the income on productive acres. The ACP program has been used for a long time to encourage soil conservation practices. Specific plans could be designed to enhance sustainable agriculture practices.

Another incentive would be to design programs that are "user friendly". Keep the objectives and requirements very practical and easy to understand and to implement. Customer satisfaction must be high for a program to be accepted at a high level. Our county has seen a drop of over two hundred farmers in the corn program from 1987 to 1989. Wheat producers in the program in the same time period have dropped from 215 to 108.

By the time that Conservation Reserve Program contracts expire more research results, experience, confidence, and incentives will be developed. Plans will need to be made to bring that program's acres back into production with appropriate guidelines, if they are brought back into production.

Re-evaluate cross compliance between crops and the part of the program that requires all landowners of a producer to be in the program. Economics indicated to producers in the fall of 1989 that wheat could be a profitable crop. We should allow the market to work. Why should we penalize a producer and some landowners because one or two landowners are unwilling to be in the program?

Sustainable agriculture practices have been used throughout our country's history. Some producers will continue to use them because of their stewardship values. Additional producers will be encouraged to use them when future research results and producer trials provide more information and confidence. Agriculture has always responded to positive economics, and it will continue to respond to economics and incentives.

Statement of Harry Pearson
Regarding Sustainable Agriculture
Adjustment Act (H.R. 3553)

I. Introduction

II. I would like to commend Congressman Jontz for introducing H. R. 3552 which is a good starting point to generate additional discussion of methods of encouraging greater use of management practices that can benefit agricultural producers and the environment.

I would like to start by making several general observations:

1) Farmers do not use inputs without regard for cost, environmental impact or prudent resource management. We in agriculture must counter the misguided perception held by some Americans that "conventional" agriculture involves unrestrained use of chemicals, fertilizers and tillage practices that result in excessive soil erosion, water pollution and chemical residues. That is simply not accurate;

2) There are varying degrees of feasibility for some "alternative" farming methods. Many practices such as conservation tillage, crop rotation, reduced application of chemicals and fertilizers and many other practices are regularly practiced by farmers engaged in "conventional" agriculture. Certain practices promoted for purposes of encouraging low-input agriculture however, will not be used by some farmers because of their availability of labor, management, equipment, capital and the potential to incorporate a livestock operation as part of the farming operation.

3) Finally, we must recognize that no single method of farming is right for everyone. Therefore, we support programs that will allow farmers to select the combination of inputs and practices that he believes will permit profitability and viability. Therefore, programs to encourage adaptation of alternative farming practices are commendable provided that the programs are voluntary for the producer to elect to participate in, treat those who do not participate in them in an equitable fashion, and have a reasonable cost for the government and therefore do not necessitate redirecting substantial funds from ongoing agricultural programs.

H.R. 3552 would attempt to eliminate certain barriers to adoption of alternative agricultural systems which would be good public policy. Voluntary programs that producers may choose to participate in will give additional flexibility for farmers. Therefore we would support the goals of Title II (Farm Program Flexibility Options) but recommend some modifications which would assure more equitable treatment for producers of non-program commodities.

Specifically, H.R. 3552 would continue to make deficiency payments to farmers who are producing resource-conserving crops. As a general farm organization, Farm Bureau has a long standing policy reflecting the fact that commodity production and markets are interrelated and that programs should not encourage production of certain commodities at the expense of others. We believe that continuing to make deficiency payments while producers are growing crops other than the program crop for which they have an assigned crop acreage base would result in inequitable competition for the producers of the non-program crop.

This is reflected in the policy adopted by the voting delegates at the American Farm Bureau Federation annual meeting in January 1990. The following proposal was approved.

AFBF Policy #34

We believe the adoption of this policy would have the following advantages.

1) It allows farmers to move out of continuous cropping without sacrificing base acreage. Currently, farmers who may wish to grow a crop other than the program crop for any reason may not do so without reducing his future base acreage.

2) The plan does not unfairly subsidize either the non-program crops or the other program crops that producers may grow on crop acreage base.

3) The plan will save the government money, in that it will lower the farm program costs each time a producer decides to grow a crop other than the designated program crop on his base acreage.

4) The plan is simple and straight forward.

While Farm Bureau does not object to other portions of H.R. 3552 concerning Extensions Service, technical assistance and financial assistance, we believe that such programs should be implemented in a cost efficient manner and not severely limit financial resources that are already devoted to ongoing programs. Since we do not know what costs would be associated with such activities, we consider this an area of H.R. 3553 that we may not support if the cost is excessive.

Thank you for the opportunity to appear before you today. Farm Bureau looks forward to working with you on these and other farm program issues in 1990. I would be glad to respond to any questions that you may have.

Statement of Larry Erb
Indiana national Farmers Organization
Field Hearing on Sustainable Agriculture

I am Larry Erb. President of Indiana National Farmers Organization. I farm 550 acres at Rt. 2 Box 84-A Remington, Indiana.

In searching for ways to explain how we arrived at this point to need to work toward flexibility in sustainable farming, I came across an editorial in Farm Journal that illustrated the problem very well. They were enthralled by low support rates and said that we sure showed those South Americans. They went on to lament the fact that U.S. farmers were not raising enough soybeans and other crops such as oats. They could not see that the cause of farmers growing corn in corn areas and wheat in wheat areas is the fact that support prices for these crops although at a very low level, are still higher than those of oats and soybeans relatively. It doesn't take a rocket scientist to figure out that $2.75 corn is better than $4.60 soybeans.

With low support rates the free market people are hard put trying to entice us to plant beans because all farmers know that the buyer knows we have only one option as our loan runs out on soybeans. Our cost of production in a normal year approaches $7.50 per bushel and on a drought year like 1988 it goes over $10.00. Last summer it looked like beans might approach $10.00 but when it came time for the grain companies to deliver their beans they had sold to Ferruzi, the Board of Trade called off all bets and issued an emergency order collapsing prices and terrorizing farmers with their usual offer: Sell it, or smell it!!

There was no option. Either accept $6.50 per bushel, $3.50 under cost of production for 1988 beans, or deliver to CCC for $4.60. The low support allows the buyer to buy at much below cost of production because of concentration within the industry.

For the first time in many years, a bill has been introduced which might allow diversified family farmers to transfer some of the deficiency payments for corn or wheat to the production of sustainable crops and retain the base acreages. H.R. 3552 would be a breath of fresh air in this regard. According to statistics we have, in the last 25 years we have lost 72% of our family farm beef feed lots and 68% of our family farm hog producers. A large part of this has been because the factory feedlot can purchase corn $2.00 below the total cost of producing corn for the family farm diversified producer that raises his own feed. This bill would help farmers with this cost of production of their small grains and hay.

Since in the past payments have been made to farmers to no-till, ridge till, and use other methods to increase use of chemicals on farms, perhaps we could include payments to:

1. Provide for government cost sharing (50 to 75%) for the establishment of rotation practices within an approved farm plan, and/or
2. Annual incentive payments based on a percentage of the loss in income resulting from the increased production costs and reduced yields during the conversion period to the sustainable system.

These programs would lead to less chemical usage in line with the recent U.S. Geological Survey test, showing heavy concentrations of farm chemicals in streams in the Midwest.

I would like to tell you of my own programs for decreased usage of chemicals. I was one of the first in Jasper County to use an insecticide on my farm and one of the first to quit using an insecticide. I haven't used any for over 20 years now. I have no problem with insects that would warrant the expense.

I have found that a plant that has a balanced program and is not under stress will have a higher sugar content and thereby is not conducive to attacks by insects. This is a fact that has been known for sometime but is not taught by farm suppliers or Extension Service people.

I have not spread any fertilizers for 30 years, and all fertilizer is applied in bands next to the plants thereby reducing the amount needed to raise good crops. The Extension Service 2 years ago started to reduce their recommendations for fertilizer but was attacked by the fertilizer industry for doing so and thus backed off from these recommendations. I use only liquid nitrogen that doesn't leach into the water and air as easily as anhydrous ammonia. It costs more but as with everything, you get what you pay for.

When I apply herbicides, I also apply a quality surfactant which allows me to use 25% to 50% less material, thereby reducing pollution of run-off water. I get as good or better weed control, and save money as well. This is a practice that is well known to the Extension Service and farm suppliers, but the reduced use of chemicals hurts the industry's bottom line even if it improves the environment.

I am sure that other practices could be used as I am now experimenting with an inoculant that has allowed me to grow 140 bushels of corn with only 50 pounds of nitrogen. I still make more profit with 150 pounds of nitrogen and 180 bushel of corn, but in the long run there is probably more pollution.

I would like to recommend more research on these types of programs, but as of now, most research at the Land Grant Colleges is paid for by the chemical companies and the colleges feel threatened to lose this research money if they stray from the heavy chemical line.

I want to thank you for this opportunity to express my ideas and opinions.

INDIANA CORN GROWERS ASSOCIATION
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TESTIMONY FOR
THE AGRICULTURE COMMITTEE
SUBCOMMMITTEE FOR DEPARTMENT OPERATIONS, RESEARCH
AND FOREIGN AGRICULTURE
U.S. HOUSE OF REPRESENTATIVES

SUSTAINABLE AGRICULTURE AND THE 1990 FOOD SECURITY ACT

by
Phillip G. Anderson
Executive Director

February 19,1990
Pioneer High School
Royal Center, Indiana

My name is Phillip Anderson. I serve as the Executive Director for the Indiana Corn Growers Association, an affiliate of the National Corn Growers Association. We represent corn farmers who stand committed to striking a balance between profitability and conservation of our natural resources. I am here today because many of our directors and officers are attending our national convention this week in Arizona. I appreciate this opportunity to appear before you and present the Corn Growers' views on this critical issue.

The preservation of the environment has risen to the top of our nation's agenda. We, as farmers, have always considered ourselves stewards of the environment because our survival depended upon it. We recognize that the soil, water and air are our most valuable resources and that our prudent use of them will make them available for future farming generations.

The Corn Growers has a concern that terms being used to describe sustainable agriculture have as many different meanings as there are people offering definitions. Experience tells us that grasping quick fix concepts can do more harm than good over the long-run. Developing knowledge is the key step in tempering our excitement for something so-called, new and exciting.

Our organization's position on low input agriculture, which we like to term "most economical return", encompasses four components. We believe that any practices that might be outlined in legislation must meet the following criteria:

1. Be environmentally sound;
2. Be economically sound;
3. Provide flexibility for varied operations; and
4. Provide a period for education and adoption.

Let me quickly expand on each of these criteria.

Too many people in our country have been quick to assume that our current production system is neither low-input nor sustainable. Many groups have persuaded Americans that new concepts being pitched around by a small number of scientists are environmentally sound. However, we need scientific data to compare different systems to be sure. These need to be done as field trials, as some of our members are now doing. Those trials are where government can help. Congressman Jontz's bill provides some economic protection while farmers test ways to improve our current system. Government may also be of assistance in providing research grants for regional field trials with using farmers' operations.

Today's agriculture is sustainable and we are always seeking to lower inputs. Farmers still do, and will always, produce for a marketplace. To survive the rigors of the global marketplace, we must make sound economic decisions. Show me a farmer who survived the 1980's without examining many possible ways to reduce the cost and number of inputs. Many an idea in the world had merit, but until it passed the economic litmus test, it had difficulty in reaching the masses. The merits of these newly-packaged concepts must help the farmer remain competitive or, hopefully, improve his competitive position.

The evolution of conservation tillage as an accepted production system can serve as a good example of how to embrace new concepts. If you were to poll farmers throughout Indiana as to how they use conservation tillage in their operations, you would get many different responses, from minimum tillage to ridge till to no-till, etc.. Flexibility is the key. Producers have varying financial resources, management systems, geography, weed problems and pests. Specific practices cannot be established to deal with all the variations that exist in Indiana, let alone the nation.

Finally, producers are willing to change. Once again, I cite the advent of conservation tillage. Plots, trials, workshops, seminars and farm publication articles, were just some of the elements that led to the acceptance and innovation that are so much a part of today's conservation tillage systems. Farmers need time to research new concepts and find ways to make them work, not for someone else, but for the operation "back home."

In conclusion, stewardship of our resources is not only a responsibility we accept, but a source of pride for us in agriculture. Too many times people act as though we don't eat the food we produce or drink the water we use. Today, it is trendy to be an environmentalist. Maybe farmers haven't gotten overly excited because we have always been true environmentalists.

Thank you.

TESTIMONY OF
TOM MILLIGAN
BEFORE THE HOUSE AGRICULTURE SUBCOMMITTEE ON
DEPARTMENT OPERATIONS, RESEARCH, AND FOREIGN AGRICULTURE
UNITED STATES HOUSE OF REPRESENTATIVES
FEBRUARY 19, 1990

re: AGRICULTURAL AND CONSERVATION PRACTICES

Thank you Mr. Chairman and good morning. I am Tom Milligan a corn and soybean farmer from Dana, Indiana. I farm 1050 acres in a corn/soybean rotation.

It is a pleasure to appear before the House Agriculture Subcommittee on Department Operations, Research, and Foreign Agriculture to discuss conventional and alternative agricultural and conservation practices as they relate to production agriculture.

Passage of the Food Security Act of 1985 opened the door for a new era in agriculture. Most often we hear how the 1985 Farm Bill helped to reestablish our position in the world market by enhancing export market competitiveness. But equally important was the Conservation Title which included historic legislation. Congress passed a 40 to 45 million acre Conservation Reserve Program (CRP) to remove highly erodible land from production in return for rental payments from USDA. Sodbuster and swampbuster provisions were included to help protect that land at the conclusion of the 10 year contracts and other marginal land and wetlands. Finally, the 1985 Farm Bill established a time frame in which all farm commodity program participants must establish a conservation compliance program for their farm.

Now it's our responsibility as agricultural leaders to look toward the 1990 Farm Bill and discuss policies designed to enhance our current conservation and environmental laws. Environmental challenges are a priority for soybean farmers as well as the vast majority of farmers involved in production agriculture. Since their livelihood depends upon maintaining environmental quality, they are working to enhance their stewardship of natural resources and the environment. In the 101st Congress, soybean farmers seek balanced environmental policies which allow them to produce soybeans and other commodities competitively and profitably while protecting the environment.

That's why the American Soybean Association joined with the American Society of Farm Managers and Rural Appraisers, the National Association of Conservation Districts, the National Association of Wheat Growers, the National Cotton Council, the National Corn Growers Association, and the U.S. Rice Producer's Legislative Group to develop a strong pro-active plan for inclusion in the 1990 Farm Bill. The proposal contains an Integrated Crop Management (ICM) initiative, a water quality initiative, voluntary programs to protect wetlands, an organic title, and minor changes to the Conservation Reserve Program, swampbuster, and the conservation compliance program. Today, I am going to concentrate on the ICM portion of our proposal.

Our package will define Integrated Crop Management as a crop management system that integrates all production factors for long-term sustained productivity, profitability, and ecologically sound consequences. These factors include, but are not limited to, crop and cultivar selection, tillage, nutrient and pesticide management, prevention of pest outbreaks and field scouting.

The proposal calls for an increase in federal resources for research on environmental/agricultural practices to determine their economic and scientific feasibility in commercial agricultural operation. The research should include broad based pilot projects covering a wide range of farming activities and different production conditions throughout the country. The results of the research should be made available to farmers through the Extension Service and other outlets.

Additionally, the initiative directs USDA to develop criteria for ICM practices based on the above research for inclusion in the SCS technical guide. USDA should make this guide broadly available to the agricultural community.

The proposal also says that farmers who for the first time follow an Integrated Crop Management system should be allowed to adequately rotate crops without losing their program base or payment yield. We believe, however, that program payments should be based on actual production.

This new approach is more clearly defined than earlier attempts to provide farmers with alternatives to current practices. These proposals are similar to those in Representative Jim Jontz's bill, the Sustainable Agricultural Adjustment Act of 1989. We look forward to working with this Subcommittee and Mr. Jontz to develop the best possible legislation.

In summary Mr. Chairman, many farmers are currently practicing sound management techniques but agriculture could benefit from expanded research and educational programs which encourage adaptation of new, profitable environmental practices. Additional funding toward biotechnology research to increase disease and pest resistance would be a positive approach soybean farmers would support. This increased research would accomplish the goal of even further reducing the use of agricultural chemicals.

Soybean Farmers simply want to produce profitably for the domestic and international markets while maintaining environmental quality. Farmers are true ecologists and stewards of the soil. Farmers live on the land, feed their family and others from the land, and take great pride in the environmental soundness of their land. Specifically, farmers and their families drink groundwater and have little desire or incentive to practice unsafe farming techniques known to damage the environment.

Once again, Mr. Chairman, thank you for the opportunity to discuss this important issue with the Subcommittee. The actions this Congress takes in the 1990 Farm Bill which affect the agricultural and conservation practices of farmers will hopefully enhance producers' ability to farm profitability and in an environmentally-sound manner. We only ask that serious consideration be given to these policies which, if made in a vacuum without thorough evaluation of the ramifications on farmers and the food supply, could severely cripple this nation's number one industry, agriculture.

TESTIMONY OF:

BARRY EPPLEY

Good morning, my name is Barry Eppley. I farm with my parents in southern Wabash County (40 miles SW of Ft. Wayne). There are three families earning a living from our farm. We typically raise 900 acres of corn, 900 acres of soybeans, 33 acres of wheat and the balance in set aside. In 1989 we grew 35 acres of canola and 44 acres of organic adzuki beans. I'd like to give you a little background of some of the newly deemed sustainable practices that we have employed. My father, Dean Eppley, switched tillage practices from a moldboard plow to a chisel plow system. This reduced input costs (labor, repair, equipment costs, fuel, etc.) as well as provided additional ground cover over winter. This change in tillage practices occurred in the late 60's. At about the same time, Dean also was working with no-till. Problems with equipment technology, chemical selection, weather and soil types prevented the no till plots from competing consistently with the chiseled plots. No till was temporarily side lined. We have recently (and plan to in 1990) no till drilled soybeans and wheat. The seventies provided a level of success which allowed for expansion of the acreage we were operating. By spreading our overhead over these acres, we were able to lower many of our per acre input costs.

In 1978, we began participating in a ridge tillage demonstration program. This program was led by Mel Boyer, District Conservationist. After three years of side by side trials, we switched our farm to the ridge tillage system.

Ridge tillage, as implemented on our farm, is a tillage system which consists of two cultivations. The second cultivation throws soil up around the crop row, forming a ridge. The crop is then harvested in the fall and all crop residues are left on the soil surface. The following spring, the ridge planter peals off approximately the top 2 inches of the ridge, and the seed is place into this moist soil. Planting and cultivation is the only tillage required. We band apply our herbicides with the planter and rely on cultivation to control weeds between rows. This allowed us to reduce the amount of herbicide used at least enough to offset the cost of one of the cultivations. (Herbicide cost for 1990 corn will be $5.00/acre. A broadcast rate of the same herbicide program would cost $11.33/acre. Purdue University custom rate cost for ridge cultivation : $6.65/acre.) By adopting and adapting the ridge tillage system to our farm, we were again able to reduce the cost of many of the inputs. One of the most frequently overlooked savings is the reduction of fuel consumption. This reduction, along with our use of ethanol blended gasoline, has greatly lessened our exposure to the potential stranglehold of the Mideast oil cartels. I think that we, as farmers, should use and promote (in that order) ethanol fuels. These types of input reductions have been the goals of our farm operation for many years.

Among the factors pushing these changes in our farming operation has been Dean's activities as a member of the local, state and national levels of Soil and Water Conservation District and the Corn Growers Association. In addition to Dean's activities, I am working with the Rodale Institute as an On Farm Research Co operator. I'm also a director of the Indiana Sustainable Agriculture Association. This organization is a forum for addressing concerns in our food and fiber production, distribution and utilization system, including areas such as soil productivity, petrochemical dependency, environmental pollution and agricultural production costs. Through these activities, we have been able to interact with a broad range of people involved in agriculture. This range has included university researchers, agriculture industry and extension personnel and other farmers. The knowledge gained through these contacts has helped us to evaluate our own farming practices as well as expose us to alternatives. Over the years our family has strived to improve our operation through the use of these alternative methods. So I guess we've been messin' with LISA for several years and didn't know it.

In 1989, we (with the Rodale Institute) conducted an on farm research project on the effects of lowering nitrogen rates on our ridge till corn. Excessive rain last spring nullified any data gained from this plot. (The nitrogen rate wasn't the yield limiting factor.) We are planning to continue the work on nitrogen rates as well as begin work on a cover crop analysis plot.

The current farm bill severely limits our ability to utilize and implement many of the alternative methods available to us. Unless the 1990 Farm Bill is modified, we will be unable to take economic advantage of these alternative, sustainable methods on our farm.

I'd like to be able to add a small grain to our crop rotation. We have a sizable corn base and with the Beans on Base flexibility in the current farm bill, we are able to attain a corn/soybean rotation. Because we only have a 35 acre wheat base, our rotation flexibility is severely limited. Adding wheat to our rotation would allow us to more easily utilize a cover crop system. For example, growing a clover following wheat to build fertility for the following years corn crop. This would actually reduce the amount of purchased inputs as well as help break some of the weed, disease and insect cycles. An additional benefit would be a better utilization of time, labor and equipment.

While these benefits are good, the primary objective for these alternative, sustainable methods and practices is the preservation, maintenance and improvement of our nation's most important resources: OUR SOIL AND WATER

These objectives can only be met through the continuation of proven means, as well as newly accepted or undiscovered methods. These proven means can best be illustrated by university and extension research. The newly accepted methods include replicated on farm research as utilized by the Rodale Institute. These methods have been proven to be statistically valid by Dick Thompson, a farmer from Boone, Iowa, who is a member of the Practical Farmers of Iowa. These two examples represent the existing infrastructure in place that should be relied upon to provide continuing direction. Under present governmental policies, funding monies have been severely reduced. This is resulting in a reduction of research staffs, facilities and activities at a time when they are needed most.

ENVIRONMENTAL ISSUES

I have made no specific comment concerning environmental issues because these issues are an underlying theme to my entire testimony. All of my efforts are with the intentions to improve the environment. Keeping this in mind, I would like to offer the following comments.

FUELS AND OTHER PURCHASED INPUTS

By reductions in fuel consumption and pesticide usage, oil importation can be reduced. In addition, better education and promotion of the benefits of using ethanol blended or ethanol oxygenated fuels will result in further oil import reductions, while increasing consumption of this product of American Agriculture - corn.

ORGANIC PRODUCTION

As part of our continuing search for alternative, sustainable practices, we now have a portion of our farm dedicated to organic production. Having set aside acres has allowed us to move into organic certification immediately. However, this has not been done painlessly due to the difficulties and inconsistencies of the certification process. Without the set aside acres, it would have taken up to four years to become certifiable. This illustrates the need for a national certification procedure. In addition, serious consideration should be given to transitional certification program for commercial farming operations, such as ours. Current legislation recently introduced in Congress provides a good first step in this direction.

RESEARCH AND DEVELOPMENT

At a time when agriculture is being bombarded with real and imagined charges, the funds needed for research and development to answer these charges are being reduced at State and Federal levels. It's imperative that we reinstate and increase funding. This should be done in the traditional university and extension areas, as well as in emerging on farm research. Result of this funding activity will speed verification, adoption and adaptation of alternative, sustainable practices by the commercial farm operation.

FLEXIBILITY

A voluntary program should be established to enable producers to adopt sustainable production systems for their farms. Opportunity should be provided to develop multi year, farm specific management plans to enhance profitability and resource stewardship. The program should provide flexibility to adjust and modify the plans. Barriers in the farm program should be reduced to allow adoption of more sustainable agricultural systems. For participants in this program:

1. Payment yields should not be adjusted downward.
2. Acreage reduction requirements can be satisfied in whole or in part through acreage adjustments resulting from crop rotations and conservation practices that are part of the farm plan.
3. Base acreage history shall be maintained and deficiency payments shall be made on any portion of base acres devoted to resource conserving crops.
4. Cross compliance is waived.

SUMMARY

These are issues that I feel warrant serious consideration.

I thank you for the opportunity to present my views here today.

Jack Strange
Sweetser Service Center
Sweetser, Indiana

I was asked by Congressman Jontz's office last Thrusday to testify on "Low Input Sustainable Agriculture." My background: I am a supplier of fertilizer, farm pesticides, and application services to farmers in the northwestern area of Grant county. Also, I have a 70 acre farm that produces corn, soybeans, and A.S.C.S. receipts.

I understand L.I.S.A. to be different things to many different groups. Enviromentalists are using it to promote "organic" farming and safe well water. Politicians likes its publicity they can surround themselves with. L.I.S.A. is a source of government dollars for our land grant colleges to sustain their research budgets. Production agriculture sees L.I.S.A. as a new name for economical and science proven methods they have been using for decades.

Which group is right about L.I.S.A.? Life is right about L.I.S.A. Life is never totally one sided. Life has meaning only when in balance.

What have I said! I earn my livilihood from sales and services the enviormentalists are trying to suppress, yet I speak as though I am one. What I am is a producer with stewardship, like most farmers, and ag businessmen are today. It is a hertiage we have sustain in agriculture through the generations. Maintain and improve, these are the goals of producers. American production agriculture has been good to our nation through the quality and quanity of food and fiber we have produced for citizens and exporters.

To sum up, L.I.S.A. is an old face with a new name. Harmless? Could be! L.I.S.A. apprears to becoming a "political football". The present farm bill has brought regulation stripped of common sense methods to the farm. Is the 1990 farm bill going to tie these same type of regulations to production agriculture. The liberal enviormentalists have dreamed up some not sound things. Is this good?

L.I.S.A.'s role in the 1990 farm bill is the total reason for this meeting today, is it not? Production controls are causing"inflexibility" of crop production decisions now. If the 1990 farm bill is to sustain agriculture, let it be through research to increase demand for our food and fiber, such as "value added". We have experience the short comings of supply regulation in the past farm bills.

In chapter 3 of Ecclesiastes, Soloman said,"There is an appointed time for everything." It is a time for freedom in Eastern Europe and the Soviet Union. Is it a time to suppress and regulate American agriculture? Will this be the reward agriculture producers receive from their country? Please do not let this happen.

TESTIMONY BEFORE HOUSE AGRICULTURE SUB-COMMITTEE
PIONEER HIGH SCHOOL, CASS COUNTY, IN 2-19-90
DAVID R. SWAIM, CROP CONSULTANT, CRAWFORDSVILLE, IN

QUESTIONS CONCERNING THE IMPLEMENTATION OF ALTERNATIVE FARMING SYSTEMS.

1. Why do the majority of my clients resist implementing alternative farming practices?

2. What would be required to overcome that resistance?

3. Why is research in Agroecology needed?

As a professional crop consultant, I am concerned that there are many gaps in our knowledge and considerable farmer resistance to the implementation of what's now popularly called "low-input sustainable agriculture." In order to reduce chemical inputs, advocates propose increased reliance on crop rotation, cover crops, green manure crops, and cultivation for weed control. While these are time-honored cultural practices, the majority of my clientele resist relying on them.

a. They resist rotating to small grains or grass and legume forage, fearing loss of "corn base," because of the restrictions in the government farm program.

The proposed bill by Rep. Jontz would provide for protection of corn base while allowing for a diverse rotation.

b. They resist cover and green manure crops, fearing inadequate nitrogen fixation, delayed planting, or poor stands. In Indiana, corn yield is closely correlated to higher nitrogen levels, early planting, and adequate, uniform stands. The past few years we've had great difficulty in managing winter cover crops. When the fall weather was dry, legume germination was poor. The most effective nitrogen-producing crops, such as hairy vetch, winter killed. If allowing a legume cover crop to get enough spring growth for adequate nitrogen fixation, planting will likely be late.

The worst case scenario occurred in the dry springs of '87 and especially '88, when any growing plant cover, whether weeds, legumes, or small grain, resulted in excessive transpiration of soil moisture and severe reduction of germination and early seedling growth. Since 1988, most conservation-tillage farmers that I know have refused to take the risk of a cover crop.

These negative experiences can be overcome only through extensive research and technology development to refine the management of cover and green manure crops. Once the systems are developed, there will need to be extensive on-farm demonstration in order to build farmer confidence. This could be funded through either SCS or LISA.

c. They resist total reliance on cultivation, and for that matter, total side-dressing of nitrogen, fearing being "rained-out" of the field by the frequently heavy rainfall that occurs in the eastern cornbelt during May and June.

It is a persistent concept among Indiana farmers that many practices common to the prairie areas are of much higher risk on our lower-organic-matter "forest soils" where annual rainfall is much heavier.

Again, a major research and extension effort would be required, probably accompanied by regulations, to significantly reduce pre-plant and pre-emerge application of pesticides and nitrogen.

These obstacles are not insurmountable, but in Indiana we are not in a very good position to overcome them at this time. Changes to alternative systems are made through "trial and error", while our conventional farming is nearly "cookbook." Few farmers that I know want to, or feel that they could afford to, go back to small livestock farms from their current larger acreage, cash-grain operations. In their eyes, the need is not great enough to justify to cost, risk, and effort.

If they are to make changes in the direction advocated by environmentalists, they are going to need scientific data, not just philosophy, as a reason to change. They need to understand what the real impact is of their present system on the ecology of their fields as well as the environment as a whole. So much environmental research focuses on toxicology- what dosage is required to kill various organisms. What is needed is ecological research that focuses on optimal, natural function. These are two separate situations: eliminating biological populations versus disrupting their productivity.

I would encourage ARS and SCS to give high priority to studying the impact of crop management systems on biological activity, soil structure, and rainfall infiltration rates. (Increased rainfall infiltration, due to improved cultural systems, would greatly reduce the need for building run-off control structures.) The information would need to be area-specific, taking into account soil sub-groups and general latitude. Although much information is presently available, additional field surveys of successful long-term conservation tillage and regenerative agriculture farms would be needed. Theories would subsequently need to be validated through laboratory and small-plot research and then proven in on-farm tests. This information is needed by conservationists, extension agents, industry representatives, and farm managers, as well as farm operators.

Do we need to develope alternatives? Optional alternatives--of course. Mandatory alternatives--only very cautiously. Alternative methods must have a scientific basis.

There is presently much discussion as to which philosophy should guide agriculture into the 21st century: Maximum Economic Yield (MEY) or LISA. These are not the only choices. I work with my clients on the basis of Optimal Economic Yield or Moderate Input Sustainable Agriculture--both of which would offer less risk and be less dogmatic. MEY advocates may deny ecological and social impact as a part of production costs. Some LISA advocates assume that the technology is already perfected and in place across the country so that producers could compensate for drastic reductions in the use of commercial fertilizers and pesticides.

I do see value in many of the soil building practices conservationists have recommended for years, and I do not like to see my clients totally dependent on crop chemicals and commercial fertilizers, but I am not chemophobic.

In Indiana, our working definition is that sustainable agriculture is a practical blend of conventional, conservation, and regenerative practices that are both ecologically and economically sound.

The farmers of central Indiana that I work with want as much control over their inputs as possible, but without sacrificing productivity. They want the safest crop protection methods available, without risking the loss of a crop. They are interested in conservation-oriented, biological-emphasis, reduced-purchased-input systems, but many are so highly leveraged that they cannot afford any mistakes. Businessmen can undertake high risk ventures expecting high profits--but can a nation afford a high risk approach in regard to its food supply?

On the other hand, I do advocate **researching** both MEY and LISA. We need to push the limits of our knowledge in both directions and see the opportunities for progress and the dangers of going too far. Let agribusiness, who will profit from new proprietary products, support MEY research and let the environmentally concerned support LISA research.

The presence of LISA funding the past two years has transformed the attitude of many researchers here in the Great Lakes states. While it has served as a definite incentive, the current amount is too little to go around--only fifteen projects spread across 50 states. If we are going to accomplish significant results, there will need to be significant funding.

LISA offers great opportunity for understanding the ecology of our agricultural systems. The detailed comparison of microbial and invertebrate ecology between the various high-imput and low-input systems is an important and missing segment of our collective knowledge. If we want "low environmental risk" agricultural systems, then we will also need to reduce some of the production risks involved.
Low-external-input systems require such intensive management

that I cannot yet promote them, recommending instead moderate-input systems. If a client decides on his own he wants a LISA system, then I will assist him as much as I can.

Why should we be concerned with developing alternative farming systems at this time? What's wrong with our present system? Let's look at the situation from a broader perspective. During the three and a half decades following WWII, the American farmer had ready access to capital, world-markets, and new technology, and, in general, benefitted from favorable weather patterns. In the years ahead it may be hard to take any of these factors for granted. Will our burgeoning national and private debt, combined with changing attitudes within the lending community, decrease the availability or increase the cost of capital to farm operators? Will a united post-1992 western Europe in league with newly democratized eastern Europe and an anti-American "third world" reduce our access to much of the world market? Will regulatory agencies allow the producer access to crop production chemicals in spite of the objections of environmentalists? Could the cumulative effect of worldwide air pollution be changing our weather patterns? Our national "Plan A" will most likely be "business as usual." Do we have a "Plan B" or "Plan C," either nationally or individually?

Although I serve as president of the Indiana Sustainable Agriculture Association, I am speaking today as an independent crop consultant. ISAA, as a technology development organization, and not a political action group, has no official position on pending legislation.

In summary, I recommend that conservationists, regenerationists, and other innovators no longer be restricted by the farm program from implementing crop rotations. Cover crop systems need to be greatly refined through expanded research and technology development. Thirdly, effective and comprehensive training programs should be developed for conservationists, extension agents and farm operators on the effect of various crop management practices and systems on the rainfall infiltration rates, biological activity, and aggregate structure of various soils.

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Conventional Agriculture's Impact on the Environment:
Farm Bill/Sustainable Agriculture testimony before Democratic
U.S. Reps. Jim Jontz (Indiana), Fred Grandy (Iowa) & George Brown
(California) 2/19/90, Pioneer H.S., Royal Center, Cass County
by Doug Mason, HEC Director of Pollution Prevention

I am here to testify in favor of the Sustainable Agricultural Adjustment Act of 1989, H.R. 3552. The primary purpose of the legislation is to increase the flexibility that farmers have with federal farm programs. I am particularly happy with the provision which calls for the USDA's Extension Service to establish a program which would assist producers in adopting sustainable agriculture production systems. The Secretary of Agriculture is instructed by this bill to revise SCS field office technical guides to incorporate the full range of sustainable practices. The guides are to include information to ensure: non degradation of farmland soils, reduction in the use of agricultural chemicals to low levels, protection of water supplies from depletion and contamination, and substantial reductions in the use of nonrenewable natural resources and purchased inputs. Unfortunately, there is no mention of research to make this information available for incorporation into the SCS guides. And research is desperately needed to prove the environmental worth of this quiet revolution in American agriculture:

Environmental issues as they pertained to agriculture were clearly signaled by Rachel Carson's "Silent Spring" in 1964, which raised questions about the secondary impacts of toxic substances, especially insecticides, in the environment. Concern about the adverse effects of synthetic chemical pesticides on human and animal health had began in the 1950s when it was discovered that organochlorine pesticides such as DDT are very persistent in the environment and can damage animal systems. After the success of Earth Day 1970, larger philosophical issues raised by the environmental movement resonated with the reevaluation of the goals of agricultural development in the U.S. and the technological basis on which this would be carried out. Technology has contributed to a shift from multi-enterprise farming operations to those having as few as one or two income-generating crops or products.

Many economic and environmental factors have converged in the 1980s to make alternative farming practices more appealing. Exports have declined since 1981. Although the situation is improving, sectors of the agricultural economy continue to experience hardships. As you probably know, Farm Aid 4 is being held April 7 at the Hoosier Dome in Indianapolis to help offset and publicize the continuing effects of the Farm Crisis. Despite the fact that net farm income has reached record levels, federal programs support an unprecedented percentage of total farm income.

But beyond economic and technological influences, the future of agriculture is being shaped increasingly by environmental trends and resource constraints. Prominent among those which won't be discussed in further detail are the conversion of cropland to nonfarm uses, the waterlogging and salting of irrigation systems, falling water tables, the diversion of irrigation water to nonfarm uses, and the possible adverse effects of climate change.

Water pollution is probably the most damaging and widespread environmental effect of conventional agricultural production. Agriculture is the largest nonpoint source of water pollution, which accounts for about half of all water pollution. Surface water damage from agriculture is estimated at between $2 billion and $16 billion per year. These estimates are approximate, however, and may underestimate the long-term costs of pollution. I'm sure most of you are aware that herbicides such as atrazine and alachlor were found in more than half of 155 Midwestern (including Indiana) streams tested early last spring, the time when contamination levels should be lowest, according to a U.S. Geological Survey study released in December.

Increased use of nitrogen fertilizers and pesticides, particularly herbicides, over the past 40 years has raised the potential for groundwater contamination. Greater use of feedlots that concentrate manure production also heightens this risk. Several of the most widely used pesticides have the potential to leach into groundwater as a result of normal agricultural use. Pesticides have been detected in the groundwater of at least 26 states as a result of normal agricultural practices. The USDA calculates that almost 50% of all U.S. counties contain groundwater susceptible to contamination from agricultural chemicals or pesticides. Purdue University recently acknowledged that, based on the computer projection from that USDA study, Hoosier aquifers have the greatest potential for groundwater contamination from pesticides and nitrates among all the states.

Soil erosion causes off-farm as well as on-farm damage. Quantifying the economic cost to society of offsite effects of erosion is difficult and estimates vary widely. Except for specific locations that have been studied intensively, it remains impossible to reach reliable judgments about the relative magnitude of on- and off-farm costs associated with erosion. The USDA calculated offsite damage at between $2 and $8 billion annually, which is two to eight times the the value of erosion's effect on productivity.

Although the data is not conclusive, evidence suggests that pesticide use creates several immediate health hazards on the farm. There is growing evidence that pesticide use may pose serious health problems for farmers and farmworkers. A 1986 study by the National Cancer Institute found that Kansas farmworkers who were exposed to herbicides for more than 20 days per year had a 6 times higher risk of developing non-Hodgkin's lymphomas (NHL) than nonfarm workers. Follow-up work in Nebraska found that exposure to the herbicide 2,4-D more than 20 days per year increased the risk of developing NHL and multiple myeloma among farmers. In addition to the risk of developing cancer, pesticides also increase the incidence of acute illness.

Because ecological interactions are extremely complicated and have generally not been studied by the EPA, the effect of pesticides on the environment is not well understood. The decline of predatory birds in the 1960s and 1970s because of chlorinated hydrocarbon pesticide use, however, is well documented. Widespread and heavy use of pesticides in this country has severely stressed other animals, including honeybee and wild bee populations. Other unintended effects of pesticides include the resurgence of pests after treatment, occurrence of secondary pest outbreaks, and development of pesticide resistance in target pests. When insecticides or other pesticides are employed against one pest, its natural enemies or those of another pest may be reduced or eliminated. The control of insects by broad-spectrum insecticides also destroys beneficial predators, and populations of many previously innocuous species may then increase rapidly and cause major economic damage. Many of you are probably aware that a class action suit has been filed last month in Warren County Circuit Court against American Cyanamid because of soybean herbicides which remained active in the soil longer than product labels indicated, causing damage to corn the following year.

Many of the chemical agents introduced into the food supply, including pesticides, fertilizers, plant-growth regulators, and antibiotics can be harmful to humans at high doses or after prolonged exposure at lower doses. Alar was only the most recently publicized scandal...I'm old enough to remember the cranberry scare of Thanksgiving 1959. Although cancer-causing chemicals have attracted the most concern, agricultural chemicals can also have behavioral effects, alter immune system function, cause allergic reactions, and affect the body in other ways.

A steadily increasing number of family farmers are discovering a principle often abandoned by their fathers: Lower inputs - when carefully planned - do not mean lower profits. Through crop rotation, biological pest control, innovative tillage techniques, and other methods that require careful planning and management, they are developing a more efficient way of farming. I believe that such "sustainable agriculture" provides a safer working environment for agricultural workers and safer food for consumers. The farmers who are turning to these techniques are demonstrating their ability to act as proper stewards of the land as well as savvy operators. And fortunately, the land grant institutions are beginning to take this quiet revolution seriously...I'm taking a course from Iowa State University on "Sustainable Agriculture" with one of Marion County's extension employees who is involved in urban gardening.

And I appreciate the opportunity to plug the concept of sustainability as proposed in H.R.3552, the Sustainable Agriculture Adjustment Act of 1989. Thank you.

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TESTIMONY OF CITIZEN ACTION COALITION

BEFORE THE COMMITTEE ON AGRICULTURE
SUBCOMMITTEE ON
DEPARTMENT OPERATIONS, RESEARCH AND FOREIGN AGRICULTURE

FEBRUARY 19, 1990

My name is Robert Ramsey. I am a farmer in Newton County in the 5th Congressional district of Indiana. I participate in the farm programs of Citizen Action Coalition of Indiana. I want to thank you Mr. Brown, and my own Congressman, Jim Jontz, for allowing me to come here today and present this testimony.

Many farmers I know are very interested in the term sustainable Agriculture. Most farmers are wondering just what is meant by sustainable and what is going to be sustained in the minds of Congress and the Administration. Farmers are interested in taking care of the land, water and air and leaving it in a tolerable condition for generations to come. However, to be able to accomplish this task, family farmers must be sustained on the land. Perhaps there are many ways to achieve this objective, but all must be coordinated with farm income that covers all costs of production, family living and a reasonable return on investment (true net profit). This is the only way family farmers can stay on the land and have a viable farming operation that can move in the direction of sustainable agriculture practices.

Congressman Jontz is to be applauded for his tireless work to meet the needs of the family farmers of the 5th District. The legislation he has proposed to allow farmers flexibility to move toward farming practices that allow for the reduction of synthetic chemicals and fertilizers is a giant step forward. Farmers need farm policy that creates an incentive to move in this direction. Current farm policy defies the use of alternative farming practices.

Changes in farming practices call for changes in management, changes in production practices, changes in equipment and changes in capitol needs. All of these changes cost money. The only way a farmer can consider making these changes is if the money to pay the cost is going to be there. This means a price for farm commodities that covers the cost of production plus a reasonable profit. I feel the best way to ensure price for farm production at the market place is a loan rate set at the cost of production. Farm income that is at a profitable level will service a higher level of debt on past losses, keep farmers on the land, and bring young farmers into farming. It is my opinion that loan rates are a more acceptable way of increasing market price than the creation of shortages and more acceptable as a way of increasing farm net income than direct deficiency payments.

Higher market prices increase the need for a supply management program to smooth out boom and bust cycles. I would like to go on record as being in favor of moving to a bushel or unit based supply management program as opposed to the acreage based program we have been operating under for many years. This could be a win/win situation for taxpayers, consumers and farmers. Farmers could make a living producing a safe and abundant supply of food, consumers and taxpayers would pay for their food only once, at the grocery store, not many times over in hidden subsidies.

The administration's farm proposals advocate elimination of crop insurance. I am not opposed to this if it is replaced by a disaster assistance program that works for farmers. I would like to see a Commodity reserve program. This program would allow producers of program crops to draw from the commodity reserve in like commodities, after a verifiable loss beginning at 20% I would like to see this commodity reserve idea used to help those farmers who choose to move to low input sustainable practices. Those who choose to move to alternative practices using less chemicals and fertilizer under an approved plan could also receive some yield protection for the transition period under the commodity reserve program.

Another incentive for farmers to move in the direction of low input farming practices is research. This should not be limited to test plots at the land grant colleges. Research should include actual on farm studies monitored and assisted by the universities, extension or other community based organizations. Because farmers and farms vary from area to area these studies should be varied, widespread and numerous. Research provides not only an incentive but the confidence to change farming practices. This research should be funded by the government to insure that all of the data is released and is available not only to farmers, but to the taxpayer-consumer as well. There has been much discussion recently about the confidence of the consumer in the safety of the food supply and the intensive use of agriculture chemicals in the production of crops. Opponents have contended that food produced with chemicals is safer than foods produced with less chemicals. Public funded research is accountable to the public and should go a long way toward resolving these gross discrepancys.

I realize that Credit is not the responsibility of this subcommittee. However, I would hope you would be sensitive to credit needs of farmers in terms of how they affect the ability of the family farmers to stay on the land and to move in the direction of sustainable farming practices. As I hear about the proposals of Secretary Yeutter and the mention of farm programs by the Administration, it seems the availability of credit is going to be greatly reduced. Farmers must have access to affordable and adequate operating credit to stay on the farm. Criteria for obtaining operating credit must allow for changes in farming practices to include low input sustainable or even organic practices for farmers to move in this direction. The best farm program in the world will be all for naught if a farmer cannot stay on the land to participate.

Many farmers that have survived the financial farm crisis of the 1980's have large debts to service. Much of the needed policy changes to allow for this heavy burden of debt to be serviced was gained in the 1987 Farm Credit Act. Even with improved credit policy and enhanced borrowers rights, many family farmers have not benefited as Congress had intended due to poor implementation of the law. There is improvement needed even though the overall act was good. Instead, as I understand the proposals of Secretary Yeutter and the Administration, there is emphasis on gutting the rights and benefits gained in the 1987 Act in the 1990 Farm Bill legislation. USDA seems to think that there will be no new farmers needing debt restructuring or any possible needs for a second chance at debt restructuring even when it is the least cost alternative. I would ask this Subcommittee do everything in its power to improve the 1987 Credit and not allow it to be destroyed.

Another point dealing with credit and debt restructuring I would ask this committee to pay close attention to is the income tax implications for farmers who have successfully restructured debt. Some farmers have received debt write down or debt write-off as a result of the restructuring process. As of now this is being treated by the IRS as income and is thus potentially taxable. For those farmers this has been like jumping out of the frying pay into the fire. There is legislation proposed to address this situation. H.R. 3167 would be a big help to many family farmers in this situation. Again, this is not an area normally handled by this subcommittee. However, I feel it can not be separated from farm policy to keep family farmers on their farms.

I would like to take this opportunity to bring up the subject of foreign imports. It is my feeling that the Administrations proposals in the General Agreement on Trade and Tariffs will lead to unlimited and unchecked imports. I feel this puts our whole economy in jeopardy. We need only to look at history to see what has happened to our steel and textile industry because of imports. Our balance of trade also suffers from increased imports. Increased imports that destroy our producers will mean we have less to export and at very low prices. This policy direction serves to lower the standard of living of citizens in the United States more than raise the standard of living of citizens in other countries. I would ask that Congress take great care to insure that goods and services that can and are produced here be protected from imports.

I strongly support your efforts to make changes in the 1985 Food Security Act. It has not been working for hundreds of thousands of family farmers who have gone out of business. It has not been working for rural communities that depend on the wealth generated by family farmers. The need for new policy that truly increases farm net income has never been greater. For those of us still farming in the 1990's, we cannot afford to keep producing at a loss. Thank you and may God bless you for being here today to hear my views and those of other farmers in Indiana.